

## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.

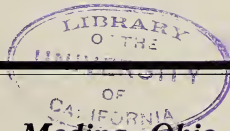


# Gleanings in Bee Culture

---



A MODERN APIARY IN HAITI.



---

*Published by The A. I. Root Company, Medina, Ohio, U. S. A.*

Entered at the Postoffice, Medina, Ohio, as Second-class Matter.

---

# A "Lincoln Farm Almanac" for 1909

Gleanings in Bee Culture, one year.	\$1.00
Farm Journal, five years	.75
Lincoln Almanac	
Total	\$1.75

**ALL OF THE ABOVE  
IF ORDERED OF GLEANINGS  
FOR ONLY  
\$1.50**

THE FARM JOURNAL has printed this year a splendid Almanac for 1909, which will be, because of special features, one of the most interesting ever issued.

On the 12th of February, 1909, is the hundredth anniversary of the birth of Abraham Lincoln; all sections, parties, and colors will unite to honor his memory. There will be impressive ceremonies at the birthplace of Lincoln in Kentucky, where President Roosevelt is expected to speak.

The Lincoln material in our Almanac consists of new and old stories and anecdotes of Lincoln, his boyhood on the farm, later life, some of his best stories, his own account of his life, famous sayings, his wonderful Gettysburg speech, a brief account of his death, and other matter. This is illustrated with original drawings done especially for this work.

Besides this, the Almanac contains a calendar for 1909, with records of important events, calculations of sun and moon for northern and southern latitudes, etc.

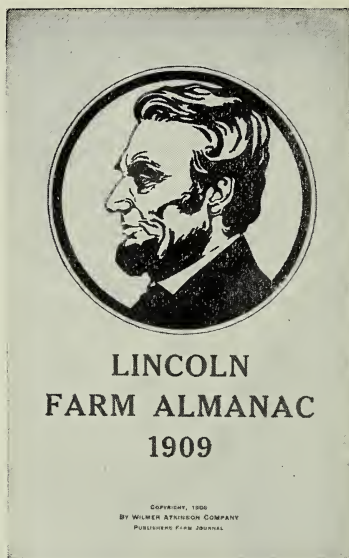
Twenty-four pages are devoted to matters of interest to all farmers, including a new and complete spraying-table for fruits and vegetables, a planting-table, cubic, square, and long measures, table of weights, rules for curing dried beef, Smithfield hams, and other meats, household recipes, directions for canning and preserving, how to have good roads, a complete list of Farmers' Bulletins published at Washington, list of Experiment Stations for all States.

The Almanac is well printed, and is bound in a specially designed cover in two colors, with a striking profile view of Lincoln's head, a small copy of which is shown at the top of this article. THE ALMANAC CONTAINS NO ADVERTISING MATTER except an announcement of the Biggle Farm Library on the inside of the last cover, and it must surely gratify and please.

We do not sell the Lincoln Farm Almanac on any terms. It is given, free, in connection with subscription offers only. It is sent in a special envelope, and safe delivery guaranteed.

**THE FARM JOURNAL.** The publishers of GLEANINGS have been acquainted with the *Farm Journal*, and we give it our unqualified endorsement. It is full of helpful money-making suggestions, and considering the low price at which we offer it (in connection with GLEANINGS it costs only 10 CENTS PER YEAR for a term of five years) no one can possibly regret the investment, especially when the new Lincoln Almanac is seen. Just think! Less than 1c per month for this invaluable farm paper. Send all orders to

**Gleanings in Bee Culture, Medina, Ohio.**



*Cover of the Lincoln Farm Almanac  
See the splendid head of Lincoln*



# C. H. W. WEBER

===== HEADQUARTERS FOR =====

## BEE SUPPLIES

DISTRIBUTOR OF

**ROOT'S GOODS EXCLUSIVELY**  
**AT ROOT'S FACTORY PRICES**

NO CHARGE TO DEPOTS  
FOR DRAYAGE.

### Don't Forget!

If you want EARLY-ORDER DISCOUNTS, to send us a list of your needs, and we will be pleased to quote you our lowest prices.

## HONEY WANTED.

Fancy white clover, EXTRACTED HONEY. State how it is put up, and price expected delivered in Cincinnati.

---

---

# C. H. W. WEBER

Office and Salesroom, 2146-2148 Central Ave.  
Warehouse, Freeman and Central Avenue.

CINCINNATI,

..

..

..

OHIO

## Honey Markets.

The prices listed below are intended to represent, as nearly as possible, the average market prices at which honey and beeswax are selling at the time of the report in the city mentioned. Unless otherwise stated, this is the price at which sales are being made by commission merchants or by producers direct to the retail merchant. When sales are made by commission merchants, the usual commission (from five to ten per cent), cartage, and freight will be deducted, and in addition there is often a charge for storage by the commission merchant. When sales are made by the producer direct to the retailer, commission and storage, and other charges, are eliminated. Sales made to wholesale houses are usually about ten per cent less than those to retail merchants.

### EASTERN GRADING-RULES FOR COMB HONEY.

**FANCY.**—All sections well filled, combs straight, firmly attached to all four sides, the combs unsoiled by travel-stain or otherwise; all the cells sealed except an occasional one, the outside surface of the wood well scraped of propolis.

**No. 1.**—All sections well filled except the row of cells next to the wood; combs straight; one-eighth part of comb surface soiled, or the entire surface slightly soiled; the outside surface of the wood well scraped of propolis.

**No. 1.**—All sections well filled except the row of cells next to the wood; combs comparatively even; one-eighth part of comb surface soiled, or the entire surface slightly soiled.

**No. 2.**—Three-fourths of the total surface must be filled and sealed.

**No. 3.**—Must weigh at least half as much as a full-weight section.

In addition to this the honey is to be classified according to color, using the terms white, amber, and dark; that is, there will be "Fancy White," "No. 1 Dark," etc.

### NEW COMB-HONEY GRADING-RULES ADOPTED BY THE COLORADO STATE BEE-KEEPERS' ASSOCIATION.

**No. 1 WHITE.**—Sections to be well filled and evenly capped except the outside row, next to the wood; honey white or slightly amber, comb and cappings white, and not projecting beyond the wood; wood to be well cleaned; cases of separated honey to average 21 pounds net per case of 24 sections, no section in this grade to weigh less than 13½ ounces.

Cases of half-separated honey to average not less than 22 pounds net per case of 24 sections.

Cases of unseparated honey to average not less than 23 pounds net per case of 24 sections.

**No. 1 LIGHT AMBER.**—Sections to be well filled and evenly capped, except the outside row, next to the wood; honey white or light amber; comb and cappings from white to off color, but not dark; and comb not projecting beyond the wood; wood to be well cleaned.

Cases of separated honey to average 21 pounds net per case of 24 sections; no section in this grade to weigh less than 13½ ounces.

Cases of half-separated honey to average not less than 22 pounds net per case of 24 sections.

Cases of unseparated honey to average not less than 23 pounds net per case of 24 sections.

**No. 2.**—This includes all white honey, and amber honey not included in the above grades; sections to be fairly well filled and capped, no more than 25 uncapped cells, exclusive of outside row, permitted in this grade; wood to be well cleaned, no section in this grade to weigh less than 12 ounces.

Cases of separated honey to average not less than 19 pounds net.

Cases of half-separated honey to average not less than 20 pounds net per case of 24 sections.

Cases of unseparated honey to average not less than 21 pounds net per case of 24 sections.

**INDIANAPOLIS.**—While prices are not high, the demand for honey has never been better—a fact that can be attributed to the quality of goods now on our market. This is a white-clover district, and our market is almost free from honey from other sources. Producers are offering fancy white comb at 12½; No. 1 white, 12; white clover, extracted, in five-gallon cans, 7. Some amber honey is being offered, but the demand is not sufficient to establish a price. Beeswax is steady at 28 cts. cash, or 30 cts in exchange for merchandise.

Nov. 3. WALTER S. POWDER, Indianapolis.

**BOSTON.**—White fancy comb honey, 15 to 16; No. 1 ditto, 13 to 14; extracted white, 9 to 10; extracted amber, 7 to 8; amber in barrels, 6 to 7. Beeswax, 30. BLAKE-LEE CO., 4 Chatham Row, Boston, Mass.

Nov. 6.

# HONEY-JARS

from  
New York City

We consider the No. 25 jar with solid metal cap and waxed liner the best jar made for honey.

Gross crates . . . \$5.00; 5 gross, \$4.75 per gross.

12-oz. screw-cap jar . . . 4.50; 2 gross, 8.25 per gross.

1-lb. sq. jar with cork . . . 5.00;

Italian queen . . . 1.00. Catalog free.

Apiaries, Glen Cove, L. I.

I. J. STRINGHAM 105 Park Place, New York

## FOR SALE!

Carload California Comb Honey.

Carefully graded. Two-thirds white.

A. L. KNISLEY, .. BISHOP, Inyo Co., CAL.

## CHAS. ISRAEL & BROS.

486-490 CANAL ST., NEW YORK

WHOLESALE DEALERS AND COMMISSION MERCHANTS IN

Honey, Beeswax, Maple Sugar and Syrup, etc

Consignments Solicited. :: Established 1875.

## Honey Quick.

Must go by Nov. 15—100 cases white and light-amber comb honey.

Fancy, \$3.50 per case. No. 1, \$3.25 per case. No. 2, \$3.00 per case.

GEO. H. REA, . REYNOLDSVILLE, PA., RT. 2.

## Money-saving Bargains in Bee-keeping Supplies.

Small profit and quick sale is my aim. Lowest price at all times. Send list of goods wanted, for best price. Sections of the best Wisconsin basswood, second growth; hives of Michigan white pine, and they are dandies. All goods are first-class, and will please you. No orders too large, none too small. Catalog ready Jan. 1. Send for it.

H. S. DUBY, . . . ST. ANNE, ILL.

**SAVE EXPRESS!** by ordering  
**SAVE FREIGHT!** your supplies  
**SAVE TIME!** in **Boston**

**H. H. JEPSON,**  
182 Friend St. Phone Haymarket 1489-1

**LIVERPOOL.**—The honey market continues steady with a fair inquiry. Stocks are small. Chilian, 4½ to 6½; Peruvian, 3½ to 4½; California, 8½ to 10½; Jamaica, 4 to 5½; Haiti, 5½ to 7. Beeswax, small sales of Peruvian, firm market—African, 26 to 28; American, 30 to 33; West Indian, 29 to 32; Chilian, 30 to 36; Peruvian, 33; Jamaican, 34 to 35.

TAYLOR & CO.,

7 Tithebarn St.

Oct. 19.

**ST. PAUL.**—Receipts of honey are very light; demand moderate, and prices steady. The prices below represent those obtained for shipment in small lots: Fancy white-clover and basswood, new, 13 to 14; buckwheat, 10 to 12½; extracted in 60-lb. cans, 7 to 8.—Board of Trade Bulletin, Oct. 26.

# Extracted Honey Wanted

We are always in the  
market.

If you have any to sell, mail  
small average sample to

**NATIONAL  
BISCUIT COMPANY**

Purchasing Department,  
Washington Blvd. & Morgan St.  
CHICAGO, ILL.

## 5% DISCOUNT

**FOR NOVEMBER ORDERS**

Four per cent on December  
orders. Why not take ad-  
vantage of this and have your  
goods all ready for the honey  
harvest?

### White-clover Extracted Honey and Beeswax Wanted

in exchange for supplies. Write  
for our catalog. It is free.

**GRIGGS BROS. & NICHOLS CO.,**

523 Monroe St. . . . TOLEDO, OHIO

If your honey crop is short, and you  
need something fine to supply your  
customers, write to us, for we have it.

**FINEST Water-white Mountain-  
sage Honey (extracted).**

**BEST White-clover Honey (ex-  
tracted).**

**WATER-WHITE Sweet-clover  
Honey (extracted).**

All in crates of two 60-lb. cans each  
Also FANCY COMB HONEY.

**WRITE US  
FOR PRICES**

**THE FRED W. MUTH CO.**

The Busy Bee-Men  
51 Walnut Street Cincinnati, Ohio

**WE WILL BUY AND SELL**

## HONEY

of the different grades and kinds.

If you have any to dispose of, or if you  
intend to buy, correspond with us.

We are always in the market for WAX  
at highest market prices.

**HILDRETH & SEGELKEN,**

265-267 Greenwich St. 82-86 Murray St.  
NEW YORK.

**Established since 1876**

For 30 years we have been recognized head-  
quarters for

## Comb and Extracted HONEY

and you can readily see where it is to your ad-  
vantage to consign your honey to us if you  
want to realize top prices for your product.  
Liberal cash advances made on arrival of honey.

References, First National Bank, Chicago.

**S.T. FISH & CO.**

189 South Water St. CHICAGO, ILL.



# GLEANINGS IN BEE CULTURE

Established  
1873.  
Circulation  
32,000.  
72 pages.  
Semi-  
monthly.

Devoted to Bees, Honey, and Home Interests.

Published by THE A. I. ROOT CO., Medina, Ohio.  
J. T. CALVERT, Business Manager.

\$1 per year.  
When paid  
in advance:  
2 years, \$1.50.  
3 years, \$2.00.  
5 years, \$3.00.

POSTAGE IS PREPAID by the publishers for all subscriptions in the United States, Hawaiian Islands, Philippine Islands, Guam, Porto Rico, Tutuila, Samoa, Shanghai, Canal Zone, Cuba, and Mexico. Canadian postage is 30c per year. For all other countries in the Postal Union add 60 cents per year postage.

CHANGE OF ADDRESS. When a change of address is ordered, both the new and the old address must be given. The notice should be sent two weeks before the change is to take effect.

DISCONTINUANCES. We give notice just before expiration and further notice if the first is not heeded, before discontinuing. Subscribers are urged to renew promptly in order to avoid interruption in receipt of GLEANINGS, or if unable to make payment at once, to advise us when they can do so, which will be considered as an order to continue. Any one wishing his subscription discontinued should advise us upon receipt of expiration notice and he will not be annoyed by further notices.

HOW TO REMIT. Remittances should be sent by Draft on New York, Express-order or Money-order, payable to order of The A. I. Root Company, Medina, Ohio. Currency should be sent by Registered Letter.

AGENTS. Representatives are wanted in every city and town in the country. A liberal commission will be paid to such as engage with us. References required.

## Foreign Subscription Agents.

Foreign subscribers can save time and annoyance by placing their orders for GLEANINGS with any of the following authorized agents, at the prices shown:

PARIS, FRANCE. E. BONDONNEAU, 142 Faubourg St. Denis. Per year, postpaid, 7½ fr.

GOODNA, QUEENSLAND. H. L. JONES. Any Australian subscriber can order of Mr. Jones. Per year, postpaid, 6/.

DUNEDIN, NEW ZEALAND. ALLIANCE BOX CO., 24 Castle St. Per year, postpaid, 6/.

## Advertising Rates.

Twenty-five cents per agate line, flat.  
Fourteen lines to inch.

SPACE RATES. To be used in one issue.

One-fourth page . . . . .	\$12.50
One-half page . . . . .	25.00
One page . . . . .	50.00

Preferred position, inside pages, 30 per cent additional.

Preferred position, inside cover, 50 per cent additional

Outside cover page, double price.

Reading notices, 50 per cent additional.

Cash-in-advance discount, 5 per cent.

Cash discount if paid in 10 days, 2 per cent.

Bills payable monthly.

No medical or objectionable advertising accepted.

Column width, 2½ inches.

Column length, 8 inches.

Columns to page, 2. (Regular magazine page.)

Forms close 10th and 25th.

Address GLEANINGS IN BEE CULTURE,  
Advertising Department, Medina, Ohio.

# Four Leading Magazines 1 Year for \$1.50

An extraordinary offer  
of special interest to  
every reader. **FREE**

Whether you are a bee  
keeper or not, this of-  
fer will interest YOU.

CAN YOU IMAGINE A MORE INTERESTING HOME QUARTETTE?

Four great journals for **ONE-FIFTY**. Here they are:

Our Special  
Price

Regular  
Price

\$1.50	{	<b>PICTORIAL REVIEW</b> (monthly) one year, \$1.00	
		<b>MODERN PRISCILLA</b> (monthly) one year .50	
		<b>LADIES' WORLD</b> (monthly) one year . . .50	
		<b>GLEANINGS IN BEE CULTURE</b> , 1 Yr., 24 issues, 1.00	
		<b>WE WILL SEND THE ABOVE QUARTETTE FOR \$1.50. \$3.00</b>	

## PICTORIAL REVIEW.

A monthly beautifully illustrated. A few of the many departments and features: Home Care for Common Ills; Marketing for the Month; Kitchen Step-savers; Labor-saving Suggestions; House-building Plans; Millinery Lessons; Flower Gardens. Special Articles: Newest Fashions; Styles for Children; Home Dressmaking Lessons; Recipes; Home Furnishing; Entertaining and Etiquette; How to Earn Money at Home, etc.

## LADIES' WORLD.

A monthly; an ideal publication for women and the home. A thoroughly practical household magazine, and treats of every subject of interest to women. Clean and wholesome, elevating in tone and entirely free from sensationalism. An up-to-date dressmaking and pattern department.

## MODERN PRISCILLA.

A monthly devoted to all kinds of needlework. Recognized as the leading fancy-work magazine of America, the authority on all kinds of embroidery, knitting, crochet, lace, costumes, lingerie, and home decoration. Gives practical patterns and instructions in all kinds of needlework.

## GLEANINGS IN BEE CULTURE.

A semi-monthly. The leading bee-magazine of the world. A glance at its pages will convince any bee-keeper that it is a magazine he can not afford to be without. The information it gives on all questions relating to the subject are invaluable to the bee-keeper, whether he has one colony or hundreds, and even if you are not a bee-keeper you will enjoy reading the paper. Interesting home and garden departments.

No substitutions of other publications can be made in this offer. Present subscribers to this paper can have GLEANINGS sent to some bee-keeping friend, and the other three papers to their address.

**THE A. I. ROOT COMPANY, : : : MEDINA, OHIO**



# SEND TEN CENTS

For three late but different issues of the *Bee-keeper's Review*, and with them will be sent a four-page circular containing some clubbing and premium offers that will surprise you. The ten cents may apply on the first order sent in.

W. Z. HUTCHINSON, Flint, Mich.

## PATENTS.

Twenty-five Years' Practice.

**CHARLES J. WILLIAMSON,**

Second Nat'l Bank Bldg., Washington, D. C.

Patent practice in Patent Office and Courts.  
Patent Counsel of The A. I. Root Co.

## ≡ BIG DISCOUNT ≡

on all bee-supplies until May 1. Send for 1909 prices.

W. D. SOPER COMPANY, JACKSON, MICHIGAN.

## 25 PER CENT REDUCTION.

Here is your chance to save money  
and get a lot of the best queens cheap.

Introduce LAWS queens this fall and thus insure a full crop of honey the coming season.

LAWS queens are sent everywhere, and everywhere there are words of praise for them.

One firm alone has bought over three thousand of the LAWS queens during the past six seasons.

Deduct 25 per cent from the following prices; remit the balance, and your order will have prompt attention.

Single queen, \$1.00; six for \$5.00; dozen for \$10.00.

W. H. LAWS, Beeville, Bee Co., Texas

# MONEY WILL STRETCH

At least it will go further if spent in the right place **FIFTY PER CENT SAVED BY OUR BIG OFFERS.** We can stretch your money and save you a full 50 per cent. **LOOK!**

Here are the most remarkable bargains in Magazine Clubs ever offered.

### Special Offers

Regular price per year	Our Price
Cosmopolitan.....\$1.50	<b>\$1.50</b>
Pearson's.....1.50	
Total.....\$3.00	

Regular price per year	Our Price
Cosmopolitan.....\$1.00	<b>\$1.25</b>
Designer......50	
Total.....\$1.50	

Regular price per year	Our Price
Pearson's.....\$1.50	<b>\$1.50</b>
Paris Modes......50	
Woman's Nat'l Daily. 1.00	
Total.....\$3.00	

**Metropolitan, Sunset, or Bohemian can be substituted for Pearson's in this club.**

Regular price per year	Our Price
Woman's Nat'l Daily \$1.00	<b>\$1.00</b>
Paris Modes......50	
Nat'l Home Journal.. .50	
Total.....\$2.00	

Regular price per year	Our Price
Outing.....\$3.00	<b>\$2.25</b>
Sunset.....1.50	
Total.....\$4.50	

Regular price per year	Our Price
Pearson's.....\$1.50	<b>\$3.00</b>
Metropolitan.....1.50	
Sunset.....1.50	
Bohemian.....1.50	
Total.....\$6.00	

Outing or Smart Set can be included in any of above clubs at \$1.50. Any two \$1.50 magazines in above clubs will be sent to one or different addresses for only \$1.50.

### Big Bargain Clubs

Regular price per year	Our Price
Smart Set.....\$3.00	<b>\$2.75</b>
Pearson's.....1.50	
Woman's Nat'l Daily. 1.00	
Total.....\$5.50	

Regular price per year	Our Price
World's Work.....\$1.50	<b>\$2.50</b>
McClure's.....1.50	
Woman's Home Com. 1.00	
Total.....\$4.00	

Regular price per year	Our Price
Cosmopolitan.....\$1.00	<b>\$3.00</b>
Review of Reviews.. 3.00	
The World Today....1.50	
Total.....\$5.00	

Regular price per year	Our Price
Everybody's.....\$1.50	<b>\$2.00</b>
Delineator.....1.00	
Total.....\$2.50	

Regular price per year	Our Price
American Magazine.. \$1.00	<b>\$1.65</b>
Cosmopolitan.....1.00	
Total.....\$2.00	

Regular price per year	Our Price
Outing.....\$3.00	<b>\$2.00</b>
Success.....1.00	
Total.....\$4.00	

Regular price per year	Our Price
Nat'l Home Journal.. \$.50	<b>50c.</b>
Paris Modes......50	
Total.....\$1.00	

Paris Modes . . . 50c  
Nat'l Home Journal 50c  
and your choice of Pearson's, Metropolitan, Bohemian, or Sunset, to one or more addresses for one year for only \$1.50.

### Big Bargain Prices on Single Yearly Subscriptions

	Regular Price	Our Price
Outing.....	\$3.00	\$1.50
Bohemian.....	1.50	.75
Pearson's.....	1.50	.75
Smart Set.....	3.00	2.50
Paris Modes.....	.50	.25
National Home Journal..	.50	.25
Woman's National Daily..	1.00	.60

We always acknowledge every order. This is very seldom done by any other agency.

IF YOU DON'T FIND ALL the publications you desire, in this list, send us your full list and we will show you a large saving by return mail.

These offers are good to old as well as new subscribers.

Be sure to send for our big Bargain Catalog. It is sent free to any address.

**REFERENCE: North Memphis Savings Bank, Memphis; or any business house in Memphis, or any magazine in our clubs.**

Always mention the name of the publication in which you saw this offer.

Paris Modes, the greatest woman's magazine in the world, will be sent to any address one year for only 25c.

ALWAYS ORDER CLUB BY NAME, AND SEND ALL ORDERS DIRECT TO

**JONES BROTHERS COMPANY**

600-606 Goodwyn Institute. Dept. 197.

MEMPHIS, TENNESSEE.

Send for our large Price List.

### WE WANT AGENTS AND REPRESENTATIVES

in every city, town, and village in the United States to take subscriptions to our clubs. We have many who are earning large sums of money each month. We can offer you regular salaried positions of \$75.00 per month and upward if you can secure the orders. To agents and representatives of magazines, we are in a position to offer you clubs that in every instance are far below the cost you have to pay the publishers or other agencies for the magazines in our clubs.

# GLEANINGS IN BEE CULTURE

E. R. ROOT  
Editor

A. I. ROOT  
Editor Home Department

H. H. ROOT  
Ass't Editor

Department Editors:—DR. C. C. MILLER, J. A. GREEN, PROF. A. J. COOK, J. E. CRANE, "STENOG," LOUIS H. SCHOLL, G. M. DOOLITTLE, R. F. HOLTERMANN, W. K. MORRISON.

## CONTENTS OF NOVEMBER 15, 1908

HONEY COLUMN.....	1352	Outdoor Wintering.....	1381
STRAY STRAWS.....	1363	Wilbur Wright in Aeroplane.....	1382
EDITORIAL.....	1364	Combs Built to Bottom-bar.....	1383
CONVERSATIONS WITH DOOLITTLE.....	1367	Bee-keeping in British Isles.....	1383
SIFTINGS.....	1368	Uniting with Sweetened Water.....	1386
GLEANINGS FROM OUR EXCHANGES.....	1369	HEADS OF GRAIN.....	1387
Formic Acid in Honey.....	1369	Straw for Hauling Comb Honey.....	1387
Irrigation in Mexico.....	1369	Comb Honey Hauled on Springless Wagon.....	1387
Confiscation of Honey in Detroit.....	1369	Windbreak for Single-walled Hives.....	1387
Distance of Bees from Road in France.....	1369	Pit for Wintering Bees.....	1387
Price of Honey in Belgium.....	1370	Improving a Locality.....	1388
Parcels Post Explained.....	1370	Hive-conveyor.....	1388
Carpet Weed.....	1371	Propolis from Wax.....	1388
GENERAL CORRESPONDENCE.....	1371	Vertical Wires.....	1388
Hive to Adopt.....	1371	OUR HOMES.....	1389
Dispensing with Separators.....	1372	School Savings Banks.....	1390
Grading Comb Honey.....	1373	Something about Electricity.....	1392
Uncapping-knives.....	1374	HEALTH NOTES.....	1393
Chalon Fowls and Family.....	1375	TEMPERANCE.....	1404
Capping-melters.....	1375-1380	The Wright Brothers up to date.....	1404

### BEE-KEEPING FOR SEDENTARY FOLK.

This refers to a new booklet just off our own press, written by a Presbyterian divine, the Rev. T. Chalmers Potter, of Glasgow, Del. It is dedicated to professional people—the clergyman, the lawyer, the doctor, the teacher, and all others whose duties in life render it necessary for them to be mostly indoors, but who feel the need of some suitable recreation in the open air which will be at once conducive to health and remunerative to the worker. The article originally appeared in the *Interior*, one of the leading organs of the Presbyterian Church in America. It presents the case for bee-keeping as a hobby in a very pleasing manner, showing what can be done to make it both pleasant and profitable. Of course, this will not interest any who are already well established in bee-keeping; but to the beginners, or those who have no bees, we believe it will prove thrice interesting. If you have a friend you would like to see take up bee-keeping, please write for a free copy. Beginners are particularly requested to send for a copy at once before the supply is exhausted. Those who have never had bees will find it very useful in blazing the way for a successful career in bee culture. It is free.

### FURS FOR ALL.

One of the most interesting advertisers in these pages to the average rural dweller is the National Fur and Tanning Company. They make all kinds of garments, robes, etc., from skins and pelts furnished by their customers. This makes it possible for many to possess nice warm fur clothing who would not otherwise have it. It is easy for most country residents to obtain skins and pelts; but usually they have had to be content with what dealers saw fit to pay for them. They can obtain much better results by sending them to the above firm to be made into nice garments for their own use. This looks better to us than to sell the skins at low prices. If you go to buy furs you will find they cost lots of money; in fact, the prices are prohibitive in many cases. Write to the National Fur and Tanning Company.

### SYSTEM.

It is not often that we get a 9059 word-book free. But this is just what *System* in another column offers us, and we believe the offer is *bona fide*. It is no useless book, either, nor a mere catalog. It is valuable to many, especially those wanting a business career, and is crammed with interesting facts. It is well worth sending for. Write to System, Dept. 9—12, 151, 153 Wabash Ave., Chicago, Ill.

# 4%

A  
request  
on a postal  
will bring  
you our free  
booklet

**Established**  
**1892**

## BANKING BY MAIL

Deposit your savings here, pending permanent investment.

The advantages offered are—

Unquestioned safety and four per cent interest, compounded semi-annually.

Write to-day for booklet explaining our convenient banking-by-mail system.

Resources \$800,000.

**THE SAVINGS DEPOSIT  
BANK COMPANY**

MEDINA, OHIO



# The American Boy

A Profusely Illustrated Monthly for BOYS.

Without Question the Most Entertaining and Practical Magazine in the World for Young Americans.

COVERS IN COLORS.

36 pages, size of Ladies' Home Journal.

Serial and Short Stories by Stratemeyer, Tomlinson, Trowbridge, Munroe, Shute, and others, the best writers for boys in the world.

Departments relating to all Boy Hobbies, edited by experts.

It preaches the religion of "DO," and not that of "DON'T."

Is doing more for the Uplift and Encouragement of Boys than any other agency.

Approved by parents and educators. Boys (250,-000 of them) everywhere enthusiastic for it.

The subscription price of The American Boy is \$1.

The American Boy (1 yr.)	\$1.00
Gleanings in Bee Culture	1.00
Total	\$2.00

**Both for \$1.50**

Address  
THE A. I. ROOT CO., MEDINA, OHIO



## The Guide To Nature

AN ILLUSTRATED MONTHLY MAGAZINE FOR ADULTS

Devoted to commonplace nature with uncommon interest.

STAMFORD, CONN.

Edward F. Bigelow, Managing Ed.

For people who see and think.

For people who believe that this is a beautiful and interesting world.

For all students and lovers of nature.

SUBSCRIPTION, \$1.50 PER YEAR.

SINGLE COPIES, 15c. NO FREE COPIES.

Every number is worth more than the price asked, costs more—therefore we can not distribute free.

## Fashion Book Free!

I want to send you my handsome new book showing over 400 of the latest styles with illustrated lessons on cutting and dressmaking. I will agree to sell you all the patterns you want for 5 cents each. They are the same patterns you have always paid 10c and 15c for at the stores, made by the same people, and correct in every detail.

### HOW I DO IT.

I publish **The Home Instructor**, an illustrated woman's magazine and I want your name on my subscription list. **The Home Instructor** is bright, entertaining, clean and instructive—just the sort of a paper you should have in your home. It has departments for every feature of home life, and prints the choicest fiction every month. Every issue has several pages devoted to the latest fashions, fully illustrated.



### My Special Offer.

Send me 25 cents and I will send you **The Home Instructor** for two years and will send my big fashion book to you free. I will also agree to sell you any pattern you want thereafter for 5 cts. I can sell them for 5 cents because I buy them by the thousand and don't make any profit. I don't want the profit, I want your subscription to **The Home Instructor**. You will save many times the cost of my offer in a year. Write to-day A. OTIS ARNOLD, Dept. B Quincy, Ill.

**CUTS** USED IN THIS MAGAZINE  
ARE FROM  
**THE MUGLER ENGRAVING CO.**  
MUGLER BLDG. CLEVELAND, OHIO.

## INDEX TO ADVERTISEMENTS.

<b>Banking by Mail.</b>	<b>Classified Advertisers.</b>	Hutchinson, W. Z. .... 1403	<b>Publications.</b>
Savings Deposit Bank. .... 1356	Bees and Queens. .... 1403	Israel, Chas. & Bros. .... 1352	American Bee Journal. .... 1402
<b>Bee-supplies.</b>	Bee-keepers' Directory. .... 1404	Rea, G. H. .... 1352	Bee-keepers' Review. .... 1355
Blanke & Hauk. .... 1400	For Sale. .... 1404	<b>Honey-packages.</b>	Farmer's Call. .... 1402
Bondonneau, E. .... 1400	Help Wanted. .... 1404	Stringham, I. J. .... 1352	Guide to Nature. .... 1402
Duby, H. S. .... 1352	Honey and Wax Wanted. .... 1403	<b>Household Specialties.</b>	Home Instructor. .... 1357
Falconer, W. T. .... 1406	Honey and Wax for Sale. .... 1403	Best Light Company. .... 1396	Hunter-Trapper. .... 1395
Griggs Brothers. .... 1353	Post Cards. .... 1403	Hewes & Potter, cover.	Suburban Life, cover.
Hilton, George E. .... 1361	Poultry. .... 1404	Rochester Radiator Co. .... 1398	System, cover.
Hunt & Son, M. H. .... 1361	Real Estate for Bee-keepers. .... 1404	<b>Incubators.</b>	Farm and Stock. .... 1401
Jenkins, J. M. .... 1360	Wants and Exchanges. .... 1404	Stahl, George H. .... 1399	Southern Fruit Grower. .... 1401
Jepson, H. H. .... 1352	<b>Comb Foundation.</b>	<b>Land for Sale.</b>	<b>Railroads.</b>
Minnesota Bee Supply Co. .... 1402	Dadant & Sons. .... 1406	Burlington Railway. .... 1397	Burlington Route. .... 1397
Nebel, J. & Son. .... 1360	<b>Fencing.</b>	Howe, E. C., cover.	Seaboard Air Line, cover.
Nysegander, Joseph. .... 1361	Coiled Spring Wire. .... 1398	Love, R. M. .... 1404	<b>Saws.</b>
Pouder, Walter S. .... 1362	Kitselman Brothers. .... 1398	Seaboard Air Line, cover.	Barnes Co. .... 1397
Prothero, John A. .... 1400	Mason Fence Co. .... 1398	Thorpe, S. S. .... 1397	<b>Sprayers and Pumps.</b>
Root Co., St. Paul. .... 1360	<b>Ferrets.</b>	<b>Mail-order Houses.</b>	Aermotor Co. .... 1396
Root Co., Syracuse. .... 1400	Knapp, N. A. .... 1397	Gordon, Van Tine Co. .... 1396	Myers, F. E. .... 1398
Soper, W. D. .... 1355	<b>Fruit Products.</b>	<b>Miscellaneous.</b>	<b>Stoves and Ranges.</b>
Stringham, I. J. .... 1352	Cal. Fruit Products Co. .... 1399	Mugler Engraving Co. .... 1357	Kalamazoo Stove Co. .... 1398
Weber, C. H. W. .... 1351	<b>Furs.</b>	<b>Patents.</b>	Rochester Radiator Co. .... 1398
Woodman, A. G. .... 1360	Nat'l Fur and Tanning Co. .... 1395	Williamson, C. J. .... 1355	<b>Telephones.</b>
<b>Bee-smokers.</b>	<b>Honey-dealers.</b>	<b>Periodicals.</b>	Stromberg-Carlson. .... 1399
Danzenbaker, F. .... 1360	Dadant & Sons. .... 1406	Grumiaux Company. .... 1359	<b>Tools.</b>
<b>Bees and Queens.</b>	Fish & Co. .... 1353	Jones Brothers Company. .... 1355	Myers, C. A., Co. .... 1396
Laws, W. H. .... 1355	Fred. W. Muth Co. .... 1353	<b>Pheasants.</b>	<b>Typewriters.</b>
<b>Bone-cutters.</b>	Griggs Bro's & Nichols. .... 1353	Riverside Pheasantry. .... 1403	Oliver Typewriter Co. .... 1397
Mann Co., F. W. .... 1399	Knsley, A. L. .... 1352	<b>Wagons.</b>	Electric Wheel Co. .... 1396
Humphrey. .... 1399	National Biscuit Co. .... 1353		
<b>Books.</b>	Hildreth & Segelken. .... 1353		
Franklin-Turner Co. .... 1395			

### BULLDOG SUSPENDERS FOR CHRISTMAS.

Most American men are well acquainted with the merits of the famous Bulldog suspenders. For those who are on the lookout for Christmas presents for their men friends, we believe the advertisement of Hewes & Potter, who make these suspenders, will prove extremely interesting just at this time. There are many readers of this journal who will take their offer of a "Bulldog" comb and case for a dime, accompanied by a copy of "Style; or, How to Dress Correctly." Their address is Hewes & Potter, Dept. 3298, 87 Lincoln St., Boston.

### CHRISTMAS BOX OF FRUIT.

One of the best possible Christmas presents is a box of California dried and canned fruits as put up by our advertisers, the California Fruit Products Co. They arrange these boxes in various combinations to suit the purse. This will make an excellent present, rather out of the ordinary, and yet very useful in almost any household. It should be noted that the freight is prepaid in all cases, so there is no trouble to be anticipated on that score. Many of our readers are so situated that they have some difficulty in getting such an assortment of fruit at a reasonable price in their own neighborhood. It will be easier for many simply to order from California direct.

### IRRIGATED LAND ON EASY TERMS.

Any one on the outlook for a place to make a home can not do better than carefully study the advertisement of the Burlington Railway, in another column. There are no more desirable lands on earth than these irrigated tracts in the Northwest. Crops are absolutely certain. Not only so, but every thing raised is of fine quality, and the crops are large. Furthermore, the prices obtained are excellent on account of the large number of miners, who earn good pay. The climate is salubrious and pleasant. A farmer can hardly expect ever to find any thing better in his line. These western places have very good school facilities—usually better than eastern places with a larger population. Churches are numerous wherever there is a settlement of people, and all up-to-date improvements are adopted. If you want land we earnestly advise a trip to look over the situation for yourself. Mr. Clem Deaver is a well-posted land man employed by the Burlington to see that settlers get the right place, where they will succeed beyond a doubt.

### OUR CHRISTMAS ISSUE.

As is our usual practice now, we will issue a special Christmas issue of GLEANINGS. Of course, our whole staff of contributors will be represented on its pages, and all possible care will be used in selecting matter suitable for the bee-keeping fraternity. We expect to make our Christmas issue our best for the whole year, and for this purpose we shall use quite freely the best illustrations we can secure. Of course, our regular readers know we charge no more for our Christmas number than for any other. We intend to print a far larger edition to allow for a much greater demand than ordinary and have enough to go around. The cost is necessarily far greater than for an ordinary issue, and we hope our readers will appreciate our earnest efforts to provide an extra-large intellectual bill of fare. They can, if they choose, do much to help us make it a financial success by showing the Christmas number to any and all bee-keepers who do not now subscribe to GLEANINGS. They can do a great service in this way; and any thing done for us in this manner will be highly esteemed as a favor. We believe there are a large number of bee-keepers not now subscribers to GLEANINGS who ought to be. In fact, many bee-keepers are losing money and pleasure by not sending in their subscription. We should like to get in touch with these backward bee-keepers; and this extra-fine number will give us the opportunity to appeal with force to them. Should you not care to lend your own copy of the Christmas number we will gladly send a sample copy wherever requested. Just send the name and address of your friend and we will attend to the rest. A little later you can ask him how he enjoys reading GLEANINGS, and if he would like to join you as a subscriber. Most of our old subscribers have done this in the past, and we greatly appreciate their efforts to help us build up a great bee-journal. Without their assistance we should certainly have failed. Having helped us once we think they will help us again. In any event, we take this opportunity to thank all who have rendered us assistance in the past, and also those who will help us now. We can not get a great circulation without the cordial co-operation of our present subscribers, hence this appeal to their good nature. With a larger field we can afford to make further improvements on this journal, and make every number equal to the Christmas issue. While we are animated by selfish motives in thus desiring to build up our circulation, it will be observed that, the larger our subscription-list is, the better journal we can turn out.



# GRUMIAUX

## THE MAGAZINE MAN

Let Me Teach You

### ..THE MAGAZINE SUBSCRIPTION GAME.. A BUSINESS WITH A BIG FUTURE

#### How I Developed My Business from \$47 to \$400,000 a Year

The subscription agency-business is just beginning to develop, and every man and woman can learn it by my complete instructions, personally conducted by mail. You can in your leisure hours conduct a mail-order business that is dignified and earn **large profits** by the **Grumiaux System**.

Begin in a small way and watch it grow. The principles upon which I built my business become yours and the benefits of my 22 years' experience—you need not make the mistakes I did—the elements of success as I discovered them, my ideas, my schemes, all become yours through the **Grumiaux System**.

Year after year, the renewal business increases profits, and before you know it you have a substantial business of your own. Start by working a few hours evenings.

Full particulars by mentioning this magazine.

#### GLEANINGS IN BEE CULTURE CLUBS

Gleanings in Bee Culture, American Magazine, and New Idea . . . . .	\$2.10		
Gleanings in Bee Culture, American Poultry Journal, Paris Modes, and McCall's . . . . .	2.15		
Gleanings in Bee Culture, American Thresherman, and McCall's . . . . .	2.10		
Gleanings in Bee Culture, Constitution (weekly), Ladies' World, and McCall's . . . . .	2.30		
Gleanings in Bee Culture, Farm Journal (five years), and Modern Priscilla . . . . .	2.05		
Gleanings in Bee Culture, Farm, Stock, and Home, and Designer . . . . .	1.80		
Gleanings in Bee Culture, Ladies' World, and Modern Priscilla or Paris Modes . . . . .	1.80		
Gleanings in Bee Culture, McCall's, and Tri-Weekly World . . . . .	2.35		
Gleanings in Bee Culture, McClure's, Modern Priscilla, and Designer . . . . .	2.65		
Gleanings in Bee Culture, Modern Priscilla, and Tribune Farmer . . . . .	2.10		
Gleanings in Bee Culture, New Idea, and Paris Modes or Ladies' World . . . . .	1.80		
Gleanings in Bee Culture, Paris Modes, Farm and Home, Ladies' World, and Good Literature . . . . .	1.75		
Gleanings in Bee Culture, Tribune Farmer, and McCall's or Paris Modes . . . . .	2.10		
Gleanings in Bee Culture, Tri-Weekly World, and Farm Journal (five years) or McCall's . . . . .	2.60		
Gleanings in Bee Culture . . . . .	\$1.00	Our Price	
Designer or New Idea . . . . .	.50	<b>\$2.55</b>	
McClure's . . . . .	1.50	<b>All Four</b>	
Modern Priscilla . . . . .	.50		
Gleanings in Bee Culture . . . . .	\$1.00	Our Price	
Etude (for music lovers) . . . . .	1.50	<b>\$2.50</b>	
Woman's Home Companion . . . . .	1.25	<b>All Three</b>	
Gleanings in Bee Culture . . . . .	\$1.00	Our Price	
Everybody's . . . . .	1.50	<b>\$3.25</b>	
World's Work . . . . .	3.00	<b>All Three</b>	
Gleanings in Bee Culture . . . . .	\$1.00	Our Price	
Everybody's . . . . .	1.50	<b>\$4.00</b>	
World's Work . . . . .	3.00	<b>All Four</b>	
Delineator . . . . .	1.00		
Gleanings in Bee Culture . . . . .	\$1.00	Our Price	
Ladies' World . . . . .	.50	<b>\$1.65</b>	
Farm and Home . . . . .	.50	<b>All Five</b>	
Good Literature . . . . .	.35		
Paris Modes and Pattern . . . . .	.50		
Gleanings in Bee Culture . . . . .	\$1.00	Our Price	
American Magazine . . . . .	1.00	<b>\$2.50</b>	
Etude . . . . .	1.50	<b>All Three</b>	
Gleanings in Bee Culture . . . . .	\$1.00	Our Price	
Current Literature . . . . .	3.00	<b>\$3.25</b>	
McClure's . . . . .	1.50	<b>All Three</b>	
Gleanings in Bee Culture . . . . .	\$1.00	Our Price	
Current Literature . . . . .	3.00	<b>\$3.00</b>	
Woman's Home Companion . . . . .	1.25	<b>All Three</b>	
Gleanings in Bee Culture . . . . .	\$1.00	Our Price	
Designer or New Idea . . . . .	.50	<b>\$1.65</b>	
Modern Priscilla . . . . .	.50	<b>All Three</b>	
Gleanings in Bee Culture . . . . .	\$1.00	Our Price	
Delineator . . . . .	1.00	<b>\$2.50</b>	
Everybody's . . . . .	1.50	<b>All Three</b>	
Gleanings in Bee Culture . . . . .	\$1.00	Our Price	
Delineator . . . . .	1.00	<b>\$3.00</b>	
World's Work . . . . .	3.00	<b>All Three</b>	

Address

The Grumiaux News and Subscription Company, LeRoy, N. Y.

1884

1908

Root's Goods always in stock

## FOR YOU

Twenty-two successful years manufacturing bee-supplies and raising Italian bees and queens. . . .

**J. M. Jenkins**  
Wetumpka, : : Alabama

## Bee-keepers!

**MONTANA, MINNESOTA, NO. DAKOTA, SO. DAKOTA, and WESTERN WISCONSIN** Save freight by ordering of the St. Paul Branch. We have a complete stock of bee-keepers' supplies. Write for catalog and obtain our early-order discounts.

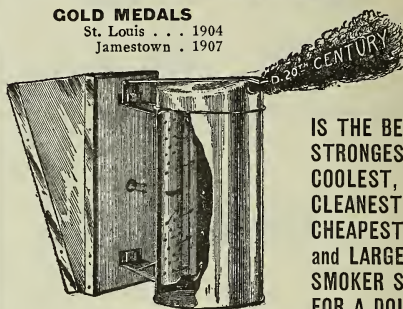
**THE A. I. ROOT CO.**

Pilcher & Palmer  
Northwestern Branch, 1024 Mississippi St.  
ST. PAUL, MINN.

## IMPROVED DAN-ZE GUARANTEED 'ALL RIGHT'

**GOLD MEDALS**

St. Louis . . . 1904  
Jamestown . 1907



IS THE BEST,  
STRONGEST,  
COOLEST,  
CLEANEST,  
CHEAPEST,  
and LARGEST  
SMOKER SOLD  
FOR A DOLLAR.

With the side grate combines hot and cold blast deflecting part of the air back and over the fuel; COOLS as it expels the smoke, while part fans the side and bottom till all consumed. The Double-walled case, 3½ inches in diameter, has asbestos-lined sides and bottom, keeping all cool.

The projecting hinge-strap protects the smoke exit, and renders easy opening the one-piece cap.

THE VALVELESS metal-bound bellows combines simplicity, utility, and durability.

Five years increasing sales justify us in extending our GUARANTEE of PERSONAL RESPONSIBILITY for full satisfaction or REFUND of price on all our smokers sold by US or OTHERS.

Price, \$1.00; two, \$1.60; mail 25c each extra.

DAN-ZE HIVES with metal Propolis-proof Guards.

ROOT'S Goods at Root's prices, early-order discounts.

Write us for any thing you need. Free circulars for yourself and your friends.

If you find a home in this genial Sunny South Land, we will help you find it.

F. Danzenbaker, Norfolk, Va., or Medina, Ohio.



ARE OUR SPECIALTY.

Our double-walled hive is the best and lowest-priced one on the market. It will pay to investigate.

A. G. WOODMAN CO., GRAND RAPIDS, MICH.

ESTABLISHED 1884

## ARE YOU NEEDING SUPPLIES?

Do not fail to write us for catalog and terms. November discounts, 5 per cent; December, 4 per cent, besides some low prices on odd stock not much called for, but may just suit your wants.

We keep in stock Root Co.'s perfect goods, "the standard." We equalize freight rates with St. Louis and Kansas City points on all shipments of 100 lbs. and over. Send us your inquiries early.

**JOHN NEBEL & SON SUPPLY COMPANY**  
MONTGOMERY COUNTY .. .. HIGH HILL, MO.

## "Practice Makes Perfect."

A little girl sat on her father's lap, looking into the mirror, and inquired if God made both her father and herself. Being assured that he did she remarked that he was doing better work than he ever did before.

It is simply the old adage over again, and it is true of *The A. I. Root Co.'s* Bee-keeping Supplies; and while perfection can never be attained they are as near perfection as improved machinery and years of practice can well make them. If you have never seen them, or if you have, and have not a catalog, send at once for my 40-page catalog, illustrated profusely, and giving prices of every thing used in the apiary. *It is free for the asking.* Special price list of shipping-cases, and all kinds of honey-packages—wood, tin, and glass. Send a list of what you will need at any time and let us tell you what they will cost you delivered at your station.

*Cash or goods for wax at all times.*

**George E. Hilton**  
Fremont, . . . Michigan

## WESTERN Bee-keepers.

.. will ..

**SAVE TIME AND FREIGHT**

by ordering **ROOT'S GOODS**  
from Des Moines, Iowa.

A FULL LINE OF

**Shipping-cases,  
Honey-extractors,**

and all other **seasonable goods now  
on hand.**

We are also prepared to supply goods for next season's use at special discounts.

Estimates cheerfully given. Send us a list of your wants, and get our net prices by letter.

**JOS. NYSEWANDER**  
565-7.W.7th St., Des Moines, Ia.

# 5%

Cash  
Discount  
for  
November  
orders  
for  
"Root  
Quality"  
Bee-supplies  
for  
next  
season's  
use.

Beeswax wanted for cash  
or exchange

**M. H. Hunt & Son**  
Lansing, Mich.



**"If goods are wanted quick, send to Pouder."  
Established 1889**

## MAKING A NOISE LIKE AN ORDER

*By the Bee Crank*

It is a pretty well-known fact that, if bees hear at all, they hear only loud noises that are produced at a very short distance. It is said that a heavy cannonading of a French battery, which went into action close to a group of beehives, during the Franco-Prussian war, did not in the least disturb the workers.

However, a noise like an order has such a peculiar penetrating quality that I am able to hear it for a long distance; in fact, at this season of the year, when things are normally quiet, I am concentrating my attention so closely that there is not the slightest danger of any thing that sounds like an order escaping me, and I am even allowing five per cent on all cash orders for supplies received this month—November.

This is not because my stock of goods is in any way less fresh or less



desirable than it always is. It is because it is a great advantage to me to have my patrons anticipate their wants instead of holding off till the last minute, as they are prone to do.

**HONEY.**—Write for my quotations. I carry a large stock of finest honey, and can help you piece out any deficiencies in your own stock. Many beekeepers with small apiaries find that they can sell more honey than they produce. It is a good plan to supply your home trade, and not educate the people to go elsewhere.

**BEESWAX.**—I pay 28 cts. cash or 30 cts. in trade, delivered here. Send what you have, by freight or express, according to size of package.

Root goods at Root prices. A full stock of standard goods on hand at all times, and special discounts for November. Catalog free.

**Walter S. Pouder,**  
513-515 Massachusetts Avenue, Indianapolis, Ind.



# GLEANINGS IN BEE CULTURE

Published by The A. I. Root Co., Medina, Ohio

H. H. ROOT, Assistant Editor.  
A. I. ROOT, Editor Home Department.

E. R. ROOT, Editor.

A. L. BOYDEN, Advertising Manager.  
J. T. CALVERT, Business Manager.

VOL. XXXVI

NOVEMBER 15, 1908

NO. 22

## STRAY STRAWS

DR. C. C. MILLER

HERR SCHROEDER and his wife, of Trieste, Austria, made a flying visit to Marengo, leaving a streak of sunshine behind them.

STUDENTS of French who are bee-keepers would do well to get Dadant's Langstroth in French, "L'Abeille et la Ruche," as a reader. It's fine.

AN AGRICULTURAL JOURNAL says: "Spring is the best time in the year to move bees." It may be; but if a bee settles on your neck, or any other portion of your anatomy, in the fall, don't wait until the spring to remove it.—*Norristown Herald*.

AS POSTSCRIPT to the last item on page 1304, let me add that you may sometimes if not often find a case where the bees stop rearing brood, although the queen has not yet stopped laying. You will find eggs and sealed brood, but no unsealed brood. [We accept the amendment.—Ed.]

QUINBY said that a colony which had stored in supers might be expected to have plenty of stores for winter. That was true when he said it, for it was before the days of extracted honey. This year I think each of my colonies that stored in sections is well supplied for winter; but a few colonies that had stored in drawn combs were not more than half supplied.

ALSIKE is getting to be quite an item here. On the first crop I saw scarcely a bee. Was there a lack of nectar in it, or was it only because there was such an enormous amount of that and white clover? Bees were plentiful on the second crop of alsike, and so they were on red clover. [In our locality the first crop gave a large amount of nectar. We should conclude that weather conditions about Marengo were not favorable, or alsike would have yielded on its first crop as it did with us.—Ed.]

SUPPOSE one strain of queens lives twice as long as another; don't you believe one set of workers would live longer than the other? You can not easily keep track of the age of workers; but you can of queens. [We do not know whether we believe that a long-lived queen means long-lived workers; but this is true: A queen vigorous enough to live five years may transmit that same vigor or longevity to her workers; but the life of the worker is dependent on its wings to resist wear and tear; and it is dependent somewhat on the kind of flora it has to work on. A queen might have great power of egg-laying year after year, but breed bees with wings that would not stand very much strain or wear and tear in a growth of heavy underbrush.—Ed.]

OLIVER typewriters, advertised in GLEANINGS, have at least the advantage of a good "locality," for they're made in this county. At Sunday-school conventions I've met some nice men who were connected with the factory. [It has been said there are as many Oliver typewriters in use as of all other kinds together. At all events, all of the typewriter work in the main office and branch offices of The A. I. Root Co. is done on the Oliver machine. It is one of the strongest typewriters ever made. It is practically impossible to get it out of alignment; and while we have no financial interest in it, it is a pleasure to testify to its many sterling merits.—Ed.]

"WHY CAN NOT the bees introduce the formic acid in some other way than with their stings?" is a question propounded to me, p. 1303. I reply that most certainly they can; and just as certainly I think they do. Now, Mr. Editor, I've answered your question; please answer mine. I asked, "Does any intelligent bee-keeper nowadays believe that the acid is added 'just previous to capping the cell?'" That's what's supposed to be done according to the bulletin. I've no recollection of seeing it ever stated that the poison was introduced "just previous to capping" except by the sting; so I don't see what was in mind if not the sting-trowel theory. However, let us throw out that theory entirely. What ground is there for supposing that formic acid is introduced by the bee *just previous to capping the cell*? Don't you believe there's formic acid there before the cell is half filled? [You are asking something about which we know nothing; but we do not see any reason why the bee could not inject formic acid from its mouth parts into the cell just previous to the capping. You seem to think that the writer of the bulletin above mentioned had in mind the sting-trowel theory. He may have had, but we doubt it.—Ed.]

SUMMER of 1908 I had 18 colonies that gave 200 sections or more each. Of these,  
3 with 1905 queens averaged 217 sections each.  
3 with 1906 queens averaged 233 sections each.  
12 with 1907 queens averaged 223 sections each.

I am inclined to believe that, with a good strain of bees, a queen's second year will in general be her best.

My 4 queens that stood at the head of the list were as follows:

A 1906 queen with 276 sections;  
a 1907 queen with 266 sections;  
a 1907 queen with 252 sections;  
a 1905 queen with 244 sections.

The 1906 queen had at one time an egg in one queen-cell, and at another time a grub in one queen-cell. I don't know whether a swarm would

have issued if these had not been destroyed. Both 1907 queens would have swarmed if they had been let alone. Strange to say, the 1905 queen showed the least inclination to swarm of the lot. Just once an egg was found in one queen-cell. [Then you believe in the general principle of killing queens every two years, notwithstanding your "exceptions that prove the rule."—Ed.]

C. P. DADANT reports a visit to the wizard, Burbank, *American Bee Journal*, 300, and while there saw a patch of sweet clover on which Burbank was experimenting with a view to eliminate the bitter taste, expecting to improve the forage value of the plant. To secure red clover available for the use of our hive-bees, he advises careful watching and saving of seed from heads on which bees have actually been seen to remain long enough to gather nectar. Watch this season after season, successively sowing seed thus saved, and "whenever blossoms are found upon which bees succeed in harvesting nectar *during the first bloom*, the problem will be practically solved."

With apologies to Mr. Burbank for the suggestion, I would suggest a way that might hasten the last part of the process on a large scale. Indeed, it might do to start with this plan, and any farmer could follow it up without watching the bees. Harvest the *first* crop when any chance seed-bearing heads are near maturity, but before the plant is spoiled for hay, and in some way secure what little seed matures. Bumble-bees being scarce during first bloom, the presumption would be that at least part of the fertilizing was done by hive-bees, consequently the corollas would be short. Seed thus saved should give a crop that would show a marked increase in the amount of seed secured, and successive sowings should in a very few years give a distinct strain of plants with short corollas. The question arises whether such a strain, aside from its value to the bees, might not be desirable from the view-point of a first-crop seeder. [If there is any man who can solve this problem it is Burbank. His advice is good. But we may suggest that this is a matter that only a keen enthusiast like Burbank can work out; and if this person be given a backing of government or State funds, all the better. Possibly our experiment station will take this thing up later. We know that something can be done in the way of lengthening the tongues of bees, for something *has* been done; but, owing to our inability to control mating, Nature has a tendency to revert back to the old length, the standard tongue-length, or rather, we should say, the standard tongue-reach, which is about  $\frac{1}{100}$  of an inch. We succeeded in developing a tongue-reach of about  $\frac{23}{100}$ ; but we could not increase this length nor hold what we had already gained, because we could not inbreed—that is, mate a long-tongued queen with a long-tongued drone. If we could control mating (and we shall be able to do it some day), and if somebody else will reduce the length of the red-clover corolla tubes (and we believe it will be accomplished some day), we shall make available thousands of tons of nectar that are now being wasted. Any one knows, who has ever pulled out the corolla tubes of a head of red clover at the proper season, that a large amount of nectar is stored in each one of those tubes. The honey is of good quality; and, while not

quite equal to that from white clover, it would make a first-class table honey.

We desire to lay this general problem before Dr. E. F. Phillips, of the Bureau of Entomology, Washington, D. C. He already has his hands full of other important work; but we suggest that he put it on the docket for development at some time in the future.—Ed.]

## EDITORIAL

By E. R. Root.

### CAUTION ABOUT SENDING SAMPLES OF HONEY THROUGH THE MAILS.

WE receive a great many samples of extracted honey through the mails from bee-keepers, and it frequently happens that some of these are in bad condition owing to improper packing. Persons sending honey or other liquids through the mails should be careful to use a package that will conform to the postal regulations; for it would be a calamity to bee-keepers if honey were barred from the mails on account of leaky packages damaging other mail-matter. We copy the following from the United States Official Postal Guide for July, 1908, article (2), (a) (b), page 124:

(2) Articles of glass, liquids, oils, fatty substances, dry powders as well as live bees, are admitted to the mails as "samples" provided they are packed in the following manner:

(a) Articles of glass must be packed solidly in boxes of metal or wood in a way to prevent all damage to other articles or the employees.

(b) Liquids, oils, and substances easily liquefiable, must be inclosed in glass bottles hermetically sealed. Each bottle must be placed in a wooden box filled with spongy material sufficient to absorb the liquid in case the bottle should be broken. Finally, the box itself must be inclosed in a case of metal or wood with a screw top, or of strong and thick leather. If wooden blocks perforated to contain several vials or wooden mailing-cases are used, measuring at least one-tenth of an inch in the thinnest part, lined with sufficient absorbing material, and furnished with a lid, the box need not be inclosed in a second case.

In addition to the above we would add: Be sure to write your name and address plainly on the package, so that we may have no trouble in identifying your sample. We receive many samples with no name or address, and hence it is impossible for us to tell who sent the sample.

### DOOLITTLE BOOK JUST FROM THE PRESS; HOW TO CONTROL SWARMING.

WE have had quite a call for the publication in book form of Doolittle's series of articles which we published, entitled "A Year's Work in an Out-apiary." This has now been issued from the press; and in order that all of our new readers, as well as some of the older ones who desire to refresh their memories, may have a copy, we are offering it at a very low price in combination with GLEANINGS; but the reader, in order to avail himself of this price, must renew before his subscription expires. During the long winter evenings this book will furnish interesting and profitable reading. It deals particularly with the problem of control of swarming when running for comb honey. Our edition is limited, and those who desire to secure a copy of this work before



the edition is exhausted will do well to put in their order at once. For particulars see p. 1401.

#### WILL THERE BE A FAILURE OF CLOVER NEXT SEASON BY REASON OF THE DROUTH?

THE editor of the *Review* seems to feel that the long drouth of the present fall has so far killed out the clovers that next year will not be very much of a honey year; that those who have fine crops of clover honey had better not sell at a sacrifice, for he thinks there is certain to be a good demand at good prices for the best quality next year.

Our brother-editor may be correct in his prognostications; but the other day we were talking with a hard-headed old farmer, and one who is a bee-keeper as well, about this very question whether the drouth of this fall had been the means of retarding the growth of clovers or killing them. Said he, "Mr. Root, you need not worry about the drouth. It will not have very much effect on the clovers. You will find," he continued, "if we get a fair amount of snow and a sufficient fall of rain next spring, the clovers—white, alsike, and red—will be very much in evidence. This has been a great year for alsike and white clover. There is a great deal of seed in the ground, even if the clovers were killed root and branch. But the clovers will stand more drouth than you think. No, sir; don't you worry about this drouth, Mr. Root. The clovers will take care of themselves."

We are giving his opinion for what it is worth. We made a little trip over some of the country roundabout, and were surprised to find that, while the grasses and weeds seemed to be dried down, root and branch, the sprigs of white and alsike clover looked green and fresh everywhere, apparently verifying the statement of our farmer friend.

We should be pleased to get expressions from our readers on this matter, as to whether drouth does affect clover. This is a *very* important question. If the clover are not killed out, as our friend Hutchinson fears, then it might be folly to hold our extracted honey over; but if, on the other hand, the general testimony is to the effect that the dry weather has done serious damage to the plants, then we ought to know the fact, and that, too, right speedily. An exact knowledge of the situation will have a tremendous bearing on the honey market. While one can not afford to carry over *comb* honey, on account of its tendency to candy before it can be sold next season, yet one might well consider whether or not he should sell his choice extracted at any price he can get before the season closes.

#### THE FATE OF THE RASPBERRY PASTURES IN THE FIRE-STRICKEN DISTRICTS OF NORTHERN MICHIGAN; THE HEROIC FIGHT OF THE HUTCHINSON BROTHERS.

IN the last *Bee-keepers' Review* appears an article by the editor, W. Z. Hutchinson, telling some of their terrible experiences in fighting fire in Northern Michigan; of how Elmer, by dint of almost superhuman effort, time and time again was just barely able to save their property. Our readers perhaps know that Mr. Hutchinson and his brother Elmer have a series of outyards in the berry districts of Northern Michigan, where fires

have been making such fearful havoc in destroying life and property. While they managed to save their bees, their buildings, and their crops of honey secured during the past summer, yet they have lost their pasturage. The ground where the wild raspberry grew so luxuriantly has burned over once, twice, and even three times in some districts. The long drouth which preceded, and the sandy soil where the berries flourish, put the ground in such shape that it is doubtful whether the roots were protected to an extent that a new growth will spring up again in a year or so hence.

Mr. Hutchinson and his brother are thankful that they saved their bees and their crops of honey; but, as W. Z. remarked, they could have far better afforded to lose *all their bees* than to have the pasturage burned. The latter they can not replace; but the former they could have replaced by buying more.

The outlook is certainly discouraging. Mr. Hutchinson and his brother have gone to the expense of locating outyards, and building honey-houses and bee-cellars. It is reasonably certain that this investment in buildings will not be worth much for the next few years; and they will doubtless be compelled to move their bees at considerable expense to an entirely new pasture, put up new buildings, and construct new cellars. In the mean time, the capital in old buildings and bee-cellars will be tied up.

But the Messrs. Hutchinson were more fortunate than some others, who lost not only their pasturage but their buildings, their bees, and all. In some cases even their homes have gone up in smoke. GLEANINGS offers its sincere sympathy to those who have suffered loss by reason of this very destructive agent whose ravages could not be foreseen, but which, fortunately, does not visit this northern country very often.

#### THE EFFECT OF THESE FOREST FIRES ON HIVE LUMBER.

These forest fires that are and have been destroying millions of property all over the United States were unknown before the advent of man in that virgin country. The Indian, amenable neither to law nor any thing else, and the game-hunter, and the prodigal lumber-man who leaves brush in his wake, are responsible for this terrible destruction of property. It does seem as if something should be done. It will mean, of course, that in the near future the price of lumber will go soaring again, especially white-pine or hive lumber, for that is the timber that seems to suffer more than any other by forest fires.

#### TARIFF ON BEESWAX AND AN ADVANCE ON THE TARIFF RATE ON HONEY.

A RESOLUTION was passed at the last National convention at Detroit, recommending an advance on the present tariff rate on honey and a tariff on beeswax. It has been said that foreign honeys are scattering foul brood in the United States, and that there should be a sufficient tariff to prevent its importation into this country—not so much to cut off competition with domestic honey as to stop the spread of European and American foul brood just now gaining rapid headway in the United States. It is claimed that this imported honey, much of it coming from ignorant

natives of foreign countries where disease is rampant and unchecked, is now scattering disease in new territory in the United States. A tariff on wax is recommended because much of the imported article is rendered in solar wax-extractors at a comparatively low temperature, or not sufficiently high to kill the germs of disease.

It is further argued that a high price on domestic wax would redound greatly to the benefit of the producer of extracted honey, and would not affect the producer of honey in sections, because the enhanced price of the wax and dark or ill-flavored honeys would more than pay for the extra cost of his foundation.

There are a good many angles to this proposition, and GLEANINGS does not propose to take any sides; but we do say something should be done to prevent the spread of disease in this country; for foul brood and black brood—especially the latter—are spreading over this country at an alarming rate, invading sections where these diseases were never known to exist before. The old-fashioned (or American) foul brood is easily held in check by an intelligent bee-keeper; but the black (or European) foul brood is an entirely different disease. It spreads more rapidly, and seems to resist in some cases the most intelligent methods of cure. It has come very near ruining some bee-keepers, and has put others out of business.

With the advance in the price of wax, which would be inevitable if a tariff were placed on it, it would mean that the bee-keeper would have to pay correspondingly more for his foundation; but he would get more for his wax. It is argued, therefore, that one will offset the other. It has also been suggested that, with the higher price on wax, one might be able to produce it in some of the Southern States at a profit for wax only. However this may be, we can not say.

This is a legitimate subject for discussion, and our columns are open for it; but we must respectfully decline to publish any thing of a partisan or political nature involving the whole question of free trade and protection as it applies to general articles manufactured and consumed in this country. The discussion must be confined strictly to wax and honey, and, what is more, must be free from any partisan bias.

SHOULD A BEE-KEEPER MELT UP HIS OLD COMBS?  
HOW FOUL BROOD, IF PRESENT, MAY BE ENTIRELY ERADICATED BY THE PRACTICE.

DR. MILLER presents the following Straw in his regular department; but as it required a more extended reply than the limits of the space in that department would allow, we insert it here.

"It would pay any bee-keeper to melt up his combs every four or five years, and fill the frames with new sheets of wired foundation," page 1306. I wonder how many in this country believe that. I wouldn't exchange five-year-old combs for frames of foundation if you would do all the work of melting up, give me back the wax, and charge me nothing for frames of foundation. In other words, I agree with the large number who value old combs more than new.

You are speaking, doctor, from the standpoint of the comb-honey producer, and in a locality where there is no foul brood and never has been. But there are some producers of extracted honey who are beginning to question whether or not the honey from these old dark combs is of as good a flavor and color as that from newer and lighter

combs. On the other hand, it may be said there are some of this class of producers who prefer old combs because they are stronger—that is to say, they will stand a higher centrifugal force in the extractor; but if they be well wired they will stand almost any kind of intelligent extracting, even if they are not old.

But some bee-keepers are learning, to their sorrow, that *foul brood once in a locality* has a tendency to break out every now and then. They are able to keep it in control but not to prevent it appearing here and there in stray colonies. And why? Because the disease-germs lurk in these old combs; and under the right conditions foul brood will be developed from them, even years afterward.

Some have about come to the conclusion that the only way to keep the disease out of their yards is to melt up their old combs every four or five years; and if one will keep an exact account of his figures he will be surprised to see that there is no great loss in the operation, providing such combs, when emptied of honey, are stowed away to be melted up at the most convenient season of the year. Some figures bearing on this point will be introduced at a later time; and in the mean time the reader is urged not to pass judgment until these figures are produced.

For some years back we have been convinced that there is no other way to eradicate foul brood from a yard than to melt up the combs every four or five years. Indeed, we have been practicing that policy for the last six or seven years. We are this very day melting up some 300 or 400 combs, many of them good ones, for no other reason than that they are four or five years old. So far as we know they are and always have been free from disease. But we sell bees by the colony and nucleus, and we realize the very great importance to the general bee-keeping world of sending out bees on only fresh new combs, and in the mean time eliminating any possible chance of the disease breaking out, by putting an age limit on our combs. Our experience shows that the wax secured will pay for the foundation at the price the bee-keeper pays, and even for the labor of rendering, since the work may be done at a time when a bee-keeper can not do much else.

Again, there are many producers who are haboring in their yards a lot of combs containing a very large excess of drone-cells. When these are in the yard one never knows but he may be incurring a big expense by raising a lot of unnecessary drones, unless he is keeping a close watch. No, it does not pay to keep drone comb, even in extracting-supers. It had better be all eliminated and good worker comb substituted. It will pay in the end.

But right here some will say that "the Root Co. are makers of foundation. They can well afford to advocate the policy of melting up combs every four or five years." This is a specious argument against the practice, and we admit it *may* have a bad look. But we only ask the bee-keeper to conduct some experiments of his own on a sufficiently large scale and then tell us what he finds. The truth is what we want, cut where it may. Right here we may say the old-fashioned methods of old-comb rendering will not secure enough wax to pay for new foundation by a long way.



## CONVERSATIONS WITH DOOLITTLE

### QUERIES ANSWERED.

A correspondent propounds the following questions which he says he wishes me to answer through these columns:

1. Would it pay me to take a big swarm of bees, which a party here will drive for their honey, and feed them for winter? I can have them as a gift, and the time of driving will be about October 20.

I would say, that would depend, on whether you had combs to give them or not. If you had a hive filled with empty combs which you could spare to put the driven colony in, it would pay you well; or, rather, it should if nothing unforeseen happened; but if you have no combs, and have to feed to have them built, and for winter stores also, it would be a doubtful investment as late in the season as you name. With the combs, 30 pounds of syrup fed, at a cost of about \$1.25 for sugar, there should be no question about the profitableness of the matter. Better still, if you have five or six frames of sealed honey to give them, together with three or four frames of empty combs to alternate in the center of the hive where the bees should cluster, you will be almost sure of success. By this giving of sealed stores I have saved many doomed colonies in years gone by, some of which gave me from 150 to 200 pounds of section honey the following summer.

2. What is the best time to feed for winter, and how is it done?

*Answer.*—The proper time to feed when bees lack for winter stores is at the earliest possible moment after the bees cease to obtain a living from the fields, and as soon as most of the brood has emerged from the cells of the combs. This comes from the 10th to the 25th of September in this locality, and I should say feeding for winter ought to be done in September in any locality if possible. This gives the bees a chance to evaporate the feed properly and seal it over before much freezing weather sets in. For feed, combs of sealed honey have my preference; but if these are not obtainable, make a feed of water, sugar and honey, as follows: Take 15 pounds of water, putting the same in a suitable-sized vessel which is to be kept over the fire till the water boils. When boiling, 30 pounds of granulated sugar is to be stirred into the water, the stirring being done so that the sugar shall not settle to the bottom and burn before being thoroughly incorporated with the water, as is often the case where the sugar is poured in without any stirring. As soon as the whole boils again, remove it from the fire and stir in 5 pounds of extracted honey. This makes 50 pounds of feed equal to the best of honey. There are other ways of making feed for bees; but after trying all that have been recommended I prefer the above to any of them, and consider the feed enough superior to pay for any extra labor it may cost. When many colonies are to be fed, the formula may be multiplied to meet all requirements when the bee-keeper has some large vessel to make the syrup in. To feed, use feeders if you have them; but in the

absence of such it can be done very acceptably as follows: Remove the cover or cap from the hive, and use an ordinary four-quart pan. Fill it with the syrup, and put on a float of some kind to keep the bees from rushing into it and drowning. I often pull up two or three handfuls of grass near the hive and put on top of the syrup for this purpose. Now open a hole in the honey-board, or turn up one corner of the quilt a little, and set a chip from the hole to the edge of the pan, so the bees can climb up to the feed. Pour a spoonful or so of the feed down through the hole to show them where it is, and put the cover on over all, making sure that no crack is left so any robber bees can get in. To guard against robbing, it is best to feed between sunset and dark at all times.

3. What is the best thing to do when neighbors' bees are robbing yours?

*Answer.*—The best thing to do is not to let the bees get to robbing. This is quite easily accomplished by keeping none but strong colonies, and allowing each colony an entrance or doorway, according to its strength. In early spring, when robbers are the most persistent, allow room for only two or three bees to pass at a time where any colony may be somewhat weak, and give not more than two inches in length of entrance to the very strongest. Colonies so weak as to be unable to defend themselves, together with any and all queenless colonies, should be united with stronger colonies or with those having queens. If it is desirable to save a colony which has been neglected till robbing has commenced, close the entrance so only one bee can pass at a time, and leave them till near night, or till all the robbers have gone home, then go to some strong colony and take a frame having the most young bees emerging from the cells that you can find. After brushing the bees from this, insert it in the center of your robbed colony. After having done this, close the hive tightly except the entrance, so as to preserve all the warmth possible, carrying the hive to a darkened cellar. Leave it there three or four days till the robbers have partially forgotten the place and the matter, and until many young bees have emerged from the comb given. Now take it from the cellar near sunset, after the other bees have largely ceased flying, placing the hive where it stood before, and you will have no further trouble if you are careful (as you ought to be at all times) not to let the bees get a taste of exposed sweets.

4. Would bees driven out in August and put in a hive without combs or honey work as well as a new swarm?

*Answer.*—That would depend upon the honey-flow at the time the driving was done. If at the beginning of the buckwheat bloom, and the bloom were giving nectar, there would be nothing to hinder their doing well, as we often have swarms at this time which fill their hives in good condition for winter, besides yielding a surplus if the season proves good. However, if the season for buckwheat were nearly or quite over, either a driven or natural swarm would not do any thing. There are sections of our country where the asters and goldenrods, together with other fall flowers, abound, in which both kinds of swarms might fill their hives with comb and

honey so as to be fully prepared for winter. As a rule, however, all increase should be made during June and July. As to which is best, a natural or a driven swarm, good authorities differ, many claiming that a driven swarm is as good as a natural one. It is always safe to say that, for the beginner, a swarm issuing in the "good old way" is fully as well equipped for the battle of life, if not better, as they can possibly be by the interference of man.

---

## SIFTINGS.

---

By J. E. CRANE

---

Say, brother bee-keepers, let's just remember that robber trap described on p. 989, and make one next winter. It may be worth many times what it costs.

We are grateful for those fine pictures of Aspinwall's hive. It seems almost as good as seeing them. It may be too early to criticise them; but if he can get all those supers filled they must have some virtue.

I am not surprised at the testimonials to the value of corrugated paper in place of cleats for sections to rest on, p. 1073. I believe the more it is used the more it will be appreciated. That new shipping-case is a beauty if we may judge from the picture.

Commencing on page 1071 are three articles on grading and packing honey that will well repay any one who raises honey to read with the greatest care. They are packed as full of good things as they well can be, and no one can go amiss in following their advice. They must be read carefully to be fully appreciated.

Dr. Miller wonders if his bees place dark wax brought up from the brood-chamber between the clamps because it is too dark to cap the sections with—p. 987. Did not the bees place the dark wax on the bottom of the upper clamps before it was raised up, and then, as honey became more abundant, and wax more easily produced, use the new wax for sealing the lower clamp?

Dr. Miller also says, page 987, "Ever noticed that bees are more particular about the combs they put brood in than about those they put honey in?" I have noticed it, and thought that it was for the purpose in some way of fitting it for brood-rearing. I have sometimes noticed that, where occupied with brood before being filled with honey, some cells were left empty, as though the brood had died in them.

Dr. Miller tells us how his bees do not cluster out, although the thermometer registers 99° in the shade at 2:40 P. M., p. 987. Decidedly interesting; but are you sure that the time of the bees is wasted when they cluster outside a hive in very warm weather? Clover nectar, I believe, as a rule has to be reduced from one-half to two-thirds to make honey; and I am satisfied (as I hope to

show later) that this is a laborious task, amounting to perhaps one-third or one-half of the work of the hive. I never could see that it made any difference with the work in the house if the women sat out under a tree in the afternoon of a hot summer day; and it seems to me the bees can just as well reduce their nectar on the outside of a hive as inside—perhaps better.

On page 1005 Mr. Bassett suggests rearing a young queen over an excluder, and then, by shaking her down in front of the hive, supersede the old queen. Mr. Alexander replies by saying that it is a very difficult thing to do. I believe Mr. Doolittle advises the same method as the easiest and best one for changing from an old to a young queen. I tried it with a number of colonies the past season and found it a failure in almost every instance.

In the Aug. 15th issue Mr. Doolittle has an interesting article entitled "Closing up the Section-honey Season;" but what I wished especially to call attention to is the price he obtained for his light unfinished sections—within 2½ cents as much as for fancy. This has been my experience. We secured within two to three cents of the fancy price during the past fifteen or twenty years, and we put up from fifty to one hundred such cases, each year. I do not intend to have such sections run below three-fourths full weight; and when they sell for such a price it doesn't pay to mix it in with the best grade.

Those remarks by the editor on page 1049 on marketing honey are well worth pondering by bee-keepers. One of the things that constantly surprises me is the large number who like honey and the few who get it. They do not seem to know where to find it. Only yesterday we sent a case to New York to fill an order. Recently we had request for samples from San Francisco. Some two years ago we received a letter from a lady in Massachusetts asking for a bottle of our honey, as she had sampled some of it and was pleased with it. We wrote her, asking her to club with her friends and send for a case, as it would save freight. Well, now! that woman has sold several hundred pounds of our honey, and so it goes. We shipped several cases to the city of Washington last winter in the same way.

On p. 1047 Dr. Miller has a Straw in regard to the depth of space between the bottom-bar of the frame and the floor of the brood-chamber. I have not been troubled so much as to the depth I should like as to what I can keep. If I start with, say, ½ inch, it is sure to increase in winter when the inside of the hive is damp, and shrink in summer in dry weather; and this constant swelling and shrinking, year after year, has so reduced this space that I have had to nail cleats around the top to make my brood-chamber deeper. Moral.—Make your brood-chamber a little deeper than you want, and in time it will just suit.

On the next page, 1048, Dr. Miller tells us how queenlessness may be discovered by the way the honey is distributed through the hive. Very



good; and he might have told us that, when we find a little patch of polished cells near the center of a comb, half as large as the hand, surrounded by honey, we may be very sure we have a queen nearly ready to begin laying.

Then A. I. Root is to give us some "Health Notes." Good! There is room here for a large amount of much-needed work along these lines; and he seems to be on the right track too. It is queer that birds and wild animals should live their lives in almost perfect health, while man, the most perfectly organized of all creatures in this world, should so often live an unhealthful life of weakness and suffering. Even those who think themselves well are unable to accomplish nearly what they might if they were all they imagine they are. It ought to be a shame and disgrace to have constant ill health. How many persons we meet who seem to know about almost every thing but how to live, and die because they do not know enough to live!

---

## GLEANINGS FROM OUR EXCHANGES

---

By W. K. MORRISON

---

### TROUBLE FOR FRENCH BEE-KEEPERS.

The French bee-keepers have had not a little worry lately on account of the proposal now up for consideration before the local government of the department of Loiret to regulate the distance of apiaries from the highways or inhabited dwellings. At present the regulations call for bees to be located not less than 15 feet from the highway, if they are enclosed; if not, they must be 37 feet from the highway or dwelling. On the petition of 44 inhabitants of the village of d'Ascheres le Marché the prefect evidently thinks seriously of increasing this distance to 325 feet. Of course, this would impose a great hardship on the bee-keepers, and many would have to stop keeping bees. The French bee-keepers have a strong organization, and doubtless they will put up a stiff fight before they allow this proposed change to become law.

### CONFISCATION OF ADULTERATED HONEY.

Some time ago the United States pure-food inspectors seized a large quantity of adulterated honey in Detroit. It was shipped there by the Rogers Holloway Co., of Philadelphia. The Department of Agriculture immediately began action in the district court for a decree of forfeiture and condemnation. The defendant having failed to answer, the misbranded goods have been forfeited by order of the court. There were four actions—one for eight barrels of honey, one for 200 cases, one for ten cases, and another for six barrels. It was all marked "Pure Strained Honey," but on analysis by the Bureau of Chemistry it was found to be a mixture of honey, invert sugar, and glucose.

It is generally understood that this concern had been doing a large business in this kind of artificial honey. Evidently they thought they could deceive Uncle Samuel. The honey-pro-

ducers of Michigan may be congratulated on these seizures. It is one of the finest things that ever happened for bee-keepers generally, and can not help being a great benefit to the honey-dealers of the whole country.

### THE FEDERAL INDEPENDENT BEE-KEEPER.

The two first numbers of *The Federal Independent Bee-keeper*, published by Messrs. Penglase & Armour, at Bairnsdale, Victoria, Australia, have arrived here. It is certainly a very bright and lively bee-journal—not very large, but full of strictly original matter. It is edited and published by men who depend solely on bees for a livelihood, and none but original contributions appear, and that is to be its policy. Gippsland, where these enterprising men have pitched their apiaries, seems to be a fine bee country; and so, of course, the various items will be tinged with propolis and slumgum. There are twenty pages in the first and second numbers, and the September issue has two half-tone illustrations. I sincerely hope Messrs. Penglase & Armour will keep up the pace they have set for themselves. Australia now has three bee-journals, which is all that the United States has at present. Advance, Australia.

### FORMIC ACID IN HONEY.

The writer has never taken much stock in the ordinary theories accounting for formic acid in honey—least of all the sting-trowel theory of the Rev. Mr. Clarke. There is not much doubt that the formic acid is the result of the process the nectar undergoes while in the honey-sac of the bee. Burning sugar, we know, develops formic acetylene-hydrogen—one of the most powerful of gases. Sugar is itself an antiseptic, and this gas is infinitely more so. Many people burn sugar for the express purpose of disinfecting sick-rooms, with good results.

Another theory which has not much to support it is, that bees invert nectar. As a matter of fact, it is usually half inverted before the bee saps it from the flower. It inverts while in the combs, and it keeps on inverting in the bottle after it has been extracted. Of course, the temperature at which it is held in the hive helps the process and rather favors the presence of enzymes; but to say the bees do it all requires a vivid imagination.

### IRRIGATION IN MEXICO.

Old Mexico has decided to emulate Uncle Sam a little, and purposes irrigating large bodies of land by means of government assistance. To do this it will give bonuses or subsidies to individuals or companies who provide the means to irrigate tracts of land within the republic. The first enterprise of the kind will use the waters of Lake Chapala, one of the most beautiful sheets of fresh water in the world. The concessionaire is a private individual who will get \$10.00 per acre bonus from the government. Mexico is one of the finest regions in the world for bees, and large tracts of land in alfalfa will help somewhat as a balance-wheel to the bee-keeping industry by making it more reliable. The Mexican ranchero is not likely to cut alfalfa before it is ripe, neither is he likely to compete with the expert bee-keeper, so the latter will have a fair field,



Around Monterey is an immense territory very suitable for bee-keeping, which must sooner or later appeal to American bee-keepers, and I imagine it will not be long before some of our enterprising bee-men will exploit this new territory

#### THE PRICE OF HONEY IN BELGIUM.

On a number of occasions it has been noted in these columns that, in many parts of Europe, the price of honey is established by the local bee-keepers' society. In *Le Progress Apicole*, of Belgium, for October, the retail prices in various sections are announced. As they are interesting to many they are appended here. (The cost of the package is borne by the buyer.)

Section of Binche, crop rather small; price 22½ cents; wax, 36 cents. Section of Bioul, 18 cents; wax, 36. Section de Cul-des-Sarts, 22½ cents for honey. Section de Fayt-lez-Manage, 20 cents. Section de Geronst, 18 cents. Section de Jurbise, 18 cents. Section de Maredret, 20 cents. Section de Solre-sur-Sambre, 20 cents. Section de Thy-de-Chateau, 20 cents. Section de Trazegnies, 22½ cents. Section d'Yvoir, 18 cents. Section de Rosel, 18 to 20 cents.

There is nothing very arbitrary about this plan. If a bee-keeper feels he should sell his honey for less he may do so; but the prices quoted are generally adhered to, and in time buyers are satisfied. Of course, honey not up to the standard will have to be shaded.

#### LE LIVRE DE L'APICULTURE BELGE.

Monsieur Desire Halleux, of Spa, Belgium, has very kindly sent me a copy of his new book on bee culture, of which he is the author. Few men are better situated to get out a first-class bee-book than he. As editor of *L'Abeille et sa Culture* he keeps in touch with current literature. He is professor of apiculture at the Huy School of Agriculture; president of the bee-keepers' union in his section, and a counselor on bee-keeping to the Belgian government. The result is, he has turned out an excellent manual for Belgian and French bee-keepers. It has 383 pages, almost as large as *GLEANINGS*, and yet it costs only 50 cts. (postage extra). The paper and printing are both good. From the American standpoint it would not be considered up-to-date; but "*Le Livre de l'Apiculture Belge*" has some ideas well worthy of introduction into this country. It shows, for example, a robber-trap that is very ingenious and cheap. The honey and wax presses are ingenious and well built, and there are several other clever inventions illustrated. The subject-matter is extra good, showing a comprehensive grasp of the subject. It has a strong chapter on the uses of honey, which I may allude to later. One assertion is worthy of note. On page 359 it says: "Sugar is to honey what margarine is to butter." —*Rusticus*. That sentence is worthy of constant reiteration.

#### WESTRALIA.

We have received the "Fleet Number" of the West Australian *Times*, published at Perth. The special number is published, of course, as a memento of the visit of the American battleship squadron to the city of Albany, W. A. A good deal of it is taken up with a description of the

country from a settler's point of view, and a synopsis of the land laws. The latter seem to be extremely liberal—160 acres for \$20. The climate is similar to California, and the crops grown are about the same. A "land bank," owned by the state government, lends money to settlers for the purpose of improving the homestead and purchasing stock; also for clearing off the land. The country is timbered with very fine hard woods, eucalyptus being plentiful; also wattle and banksia and other famous honey-producing plants. I am under the impression West Australia holds the record for the greatest yield of honey ever reported from one colony of bees. In some years their yields are wonderful. It is an immense country, being four times as large as Texas. Potentially it is very rich, and in time ought to become one of the great nations of the earth if only a sufficiency of the Caucasian race of men settle there. An American farmer would probably feel more at home in West Australia than any other foreign country in the world. Every thing seems to be managed on American lines, and the people are sincere admirers of the great republic of the west. They are equally optimistic and democratic. More details can probably be obtained from the Colonial Secretary's Office, Perth, West Australia, by any one who has an idea of going there to settle.

#### PARCELS POST CRITICISED.

A friend who keeps a hardware store at Wilbur, Nebraska, sends me a very courteous criticism of my stand on the parcels-post question, and in addition he incloses a pamphlet written by C. W. Burrows, one of the largest booksellers in the United States. Mr. Burrows' article I have read before, and, so far as I am personally concerned, his arguments have no weight, because he denounces mail-order concerns when he himself does a very large mail-order business in books. Of course, he pays only 8 cents per lb. postage on books. If he had to pay 16 cents it would probably make quite a difference in his attitude. Furthermore, many of his statements are not true. In Europe there is a parcels-post service in every country, and from one country to another; and, though it has been working for many years, it has not had the effects he says it will have in this country. Just the contrary is the case. Country merchants in Europe like parcels post. They do a lot of business by catalog. There, when a man steps into a country store where hardware is sold, and inquires for an article, the merchant does not send him away, but tells him he can get it for him in 24 hours. He orders it sent straight from the wholesale house to the customer, so he never sees it. He makes a profit just the same. Let us suppose a case. A bee-keeper in Nebraska goes in a great hurry to a hardware store and inquires if they have a little comb foundation or a few sections. The merchant says, "No, but we can send them to you in a day or two if you will leave your order." The bee-keeper goes home, and in less than two days the mail-wagon leaves the goods at his house. It is the same in every other kind of business, and very much so in the case of hardware, for no country dealer can afford to keep a complete stock. He keeps a full set of catalogs, however.

Mr. Burrows claims the mail-order business would build up the cities; but it has not done so in Europe. I know many people move to the towns so as to get more comforts. They want the daily papers; they want fresh meat every day, and many other things which they can not get. It is a very common occurrence in Europe to see butter, eggs, honey, flowers, fruit, etc., sent by parcels post. I have repeatedly seen meat sent by the same means. It strikes me this is a good thing, and I firmly believe it will be a great day for bee-keepers who sell their honey to consumers direct when parcels post is allowed by Congress.

Please do not think I imagine all this. Only a few days ago a gentleman who keeps a drug-store here in Medina issued the following circular. It speaks for itself.

*Dear Friend:*—We wonder if you know how easy it is to order drugstore goods by telephone or mail. Since the rural routes have been established in this section of the country many of our old customers who formerly waited until they came to Medina to buy drugstore goods are now ordering by phone or by mail, and having the goods delivered by rural routes. You will find the system works very nicely indeed; for instead of waiting days or weeks for storms to blow over, etc., for goods of which they are very much in need, they are able, by the new plan, the R. F. D.'s, to have things delivered the next day.

We should be glad indeed to have you keep this in mind; and if you are in need of any drugstore goods in the near future, write or phone us, and you will find we will take care of your order just as carefully and just as promptly as if you yourself came personally to our store.

The writer of the foregoing has a store in a country village, and it is very clear to me that parcels post would enable him to extend his business considerably, as 16 cts. a pound is too much to pay for goods delivered on a rural route. Every country storekeeper should be, in my opinion, a strong advocate of parcels post. It is bound to help him. The Postmaster-General intends it shall help him, and he will help him if he gets a chance to do so.



#### CARPET WEED.

The *California Cultivator* recently gave space to the following query from a correspondent:

I read an article in a recent issue of the *Cultivator* regarding *Lippia repens*, a creeping lawn-plant. Where can I obtain a start of it? Will it spread and become a pest? Is it a forage-plant for stock?—W. E. A.

In answer to the above the editor replies:

We should think you could secure this plant from your local nurseryman; but if not, the Southern California Acclimatizing Association, Santa Barbara, which originally introduced it, or probably any nurseryman advertising in these columns, can supply you. It will not become a pest, and is easily eradicated if desired. While it has been claimed to be a strong enough grower to eradicate morning-glory, we do not know whether it would do that or not. It would surely need encouragement by keeping down weeds until it is thoroughly rooted. In the yard of the writer it has proven very attractive topiary, which run to it immediately on being let out of their corral; but as to whether stock would find it agreeable, or whether it would live under grazing, we are not prepared to say.

This lippia is a splendid honey-plant—few better—and is, in addition, a soil or sand binder, creeping over the loose sand and covering it with a mantle of green like a carpet. In Florida it would be a grand acquisition, and thousands of dollars could be profitably spent in getting it started there. It is fair for stock. If it would take hold of Florida land as it does some others, the "land of flowers" would become one of the leading honey States. Every Florida bee-keeper should try it.

## GENERAL CORRESPONDENCE

### WHAT HIVE TO ADOPT.

#### A Discussion of the Merits of Different-Sized Hives, Taking into Consideration the Man, the Methods, and the Locality.

BY E. D. TOWNSEND.

The proper hive to use is a question that confronts every beginner. The kind, size, and shape of the hive best adapted for the purpose must be taken into consideration, and these depend upon whether comb or extracted honey is produced; whether the colonies are all in one yard or in several outyards, etc.

In reading the current literature on the subject, much confusion of ideas is noticeable; for in some locations, where conditions ought to be the same, one bee-keeper will use a large hive and the other a small one, each being successful with his own preferred size. This reminds me of a little incident that came up in our convention at Saginaw. Mr. W. J. Manley, of Sandusky, told of buying about 60 colonies of bees, one of which was in a soap-box. This soap-box colony was inverted, an upper story put on, and, although the colony was handled the same as the others, several more pounds of honey were extracted from it than from any other individual colony in the yard. This only goes to show that bees will store honey in almost any kind of hive; and, further, that a hive poorly proportioned can be so manipulated as to yield fair results in the production of honey. But in this case it is, of course, the man and not the hive that should get the credit. In this article I propose to fit the man to the hive, the hive to the man, and both to the location.

It has been my fortune (or perhaps misfortune) to be the owner of almost all kinds and sizes of hives, including the ten-frame Gallup and the ten-frame Quinby—hives varying in size from 1000 to 1800 square inches of brood-comb space. I have also had the eight, ten, and twelve frame Langstroth hive; and many times different sizes and styles of hives were in the same yard. My experience with such has extended over many seasons, so that I am in condition to know which size and style are best adapted to my locality and to my particular system of management, etc.

Probably two-thirds of the colonies in this State are in eight-frame Langstroth hives, or in hives similar in size and shape. In general we may say that, the further north the bee-keeper is located, the shorter his honey season. A short season requires a small hive for the best results in the production of honey; and a small hive requires the more constant care. A large hive will stand more neglect.

Our location is one where the surplus flow is early and quite short, it being mainly from clover and raspberry. This flow usually begins about 60 days after the first natural pollen is brought in. The best flow is apt to come after a rigorous winter, and then the skill of the expert



is needed to bring the bees through in good condition, and tide them over the ever changing days of spring. All admit that an eight-frame Langstroth hive is large enough to allow a colony of bees to build up to a normal size during this time *when circumstances are favorable*. Now, if it takes all the skill of the experienced bee-keeper to manage his bees so they will come through the winter and spring in the best condition and take care of the surplus honey in general, what can be expected of the inexperienced, careless, or indifferent bee-keeper? It is evident that the eight-frame brood-nest is ample for such, as there is no object in having more frames if the bee-keeper is not able to get the colony built up safely to occupy them. The eight-frame is ample for the beginner; but when the knack of successful management is acquired, so that at least half of the colonies, by the time the honey-flow begins, fill their hives to overflowing with bees, a larger hive—that is, a ten-frame size—must be used. If the beginner were to start with a twelve-frame hive it would be my opinion that he had begun at the top of the ladder instead of the bottom, and his failure would be almost certain. The change from the ten-frame size to the twelve-frame size may be advisable whenever one has mastered the situation, so that the ten-frame hive has become too small to hold his colonies at the opening of the flow. The location must always be considered in this connection; for if the main honey-flow began only 90 days from the time the first natural pollen is gathered, a hive with at least two more Langstroth-sized frames could be used than would be advisable if the main honey-flow began only 60 days after the first pollen was gathered in our location here.

Mr. S. D. Chapman, of Mancelona, Mich., is one of the most successful bee-keepers in Michigan, as he has bee-keeping "under his thumb." He winters his bees in four cellars, and brings them through the winter and spring very strong, so that, long before the 60 days breeding season is ended, he is obliged to allow additional room for the queen to lay, and also for clustering space in order to keep the bees from swarming before the honey-flow. Two of Mr. Chapman's cellars are under his dwellinghouse, a third is an elaborate special repository, and the fourth is one not so expensive. One of the cellars under the dwellinghouse is under a part of the house where a fire is kept going most of the time; and these colonies must be set out in the spring earlier than any of the others. All of this shows that the man and not the cellar should have the credit where the colonies are successfully wintered in four cellars of different design and construction, necessitating different methods of handling, etc.

Good wintering in the northern States is one of the supreme tests of a successful bee-keeper; and the inability of many of the northern men to winter their colonies so they will breed up and fill large hives in the short period between the breeding season in spring and the main flow in June is the reason that most of them prefer a small hive.

For 18 years I had 50 ten-frame Quinby hives in use. These were chaff hives with the regular thickness of packing around the sides, top, and bottom in winter; but the best I could do was to get the colonies in these large hives in condition

for the honey-flow about July 1, when in our locality the white-clover flow would be nearly over. At the same time I was having good success with the thirteen-frame Gallup hive, and so I took out the two outside frames of the Quinby hive, reducing it to the eight-frame size, which equaled in space the thirteen-frame Gallup hive, except that the frames ran the other way. These two hives gave good results, and I patterned after this same size when I adopted the ten-frame Langstroth hive.

I do not mean in any of the above that I prefer the eight-frame hive. It is true that I said that the eight-frame Langstroth hive is large enough, and that it needs less care, and some may wonder why I use the ten-frame hive. I will try to explain the reason. It sometimes happens that we do not see our colonies from the time they are taken out of the "clamps" until it is time to put on supers, and in such a case all must be fed enough in the fall to make a total of from 25 to 30 pounds of stores, to make sure that none starve during the spring when we do little if any feeding. Our colonies use from 20 to 25 lbs. of stores from October till the main honey-flow in June. At the time of the main honey-flow, there will be from 5 to 10 lbs. of stores left in the hives which have contained 30 lbs. in the fall, and from nothing to 5 lbs. in those hives which contained 25 lbs. in the fall, the calculations being based on good average colonies—weak colonies consuming less. Now, a Langstroth brood-comb contains 5 lbs. of honey and bee-bread when sealed; and 30 lbs. of stores will, therefore, fill six brood-combs spaced  $1\frac{3}{8}$  from center to center; so that in an eight-frame hive there will be only two empty combs left in the fall. A colony wintered fairly well in such a hive will become honey-bound before the main flow the following June. It would have been in better condition at this time if there had been a comb or so of stores left. On the other hand, the ten-frame hive with 30 lbs. of stores would have four empty combs in the fall; which combs, together with those from which the honey is used during the winter, would make ample room for the queen to lay and still allow a "reserve fund" consisting of a comb or more of honey at the beginning of the honey-flow in June. For this reason, therefore, we prefer the ten-frame hives.

Remus, Michigan.

*To be continued.*

## CAN WE DISPENSE WITH SEPARATORS?

### Why Many Bee-keepers Prefer to Produce Bulk Comb Honey.

BY LEO E. GATELEY.

Unless acquainted with the facts, one might, from all that has appeared upon the subject, be easily led into the error of thinking that the production of bulk comb honey is a part of bee-keeping confined exclusively within the borders of Texas. From actual conditions nothing could be further from the truth. A large part of the Arkansas crop has always been put upon the market in this form, and, to a great extent, it will be found very much in evidence throughout the South.

Though, perhaps, the cause for this method of marketing having become so universal in our State seems too often a result of carelessness, to the careful observer, another cause is visible which producers in many parts of the South can not afford to ignore. This is the difficulty often encountered here to a degree seldom found in more favored localities, of getting the best work done in section supers on account of peculiarities in the flows.

During a season of our prolonged flows, the bees, if rightly managed, will store as much honey as can be secured in the average locality; but seldom is the flow sufficiently heavy for bees to work in supers as they will in a good basswood region. During such slow flows the bees are greatly inclined to crowd honey into the brood-chamber rather than in any sort of surplus arrangement. As separators accentuate this inclination, I have been for some time endeavoring to eliminate these from our supers, and I have met with a measure of success. Most bee-keepers recognize the importance of having free communication in supers; but to avoid the annoyance and discomfort of having irregular and bulged sections the majority prefer to use separators, even at the expense of a few pounds of honey.

In this connection Mr. Sherburne, p. 947, Aug. 1, presents an article at once interesting and instructive. Like him, we have learned that the secret of getting cratable honey when no separators are used lies in having most of the sections started upon simultaneously. Also, to accomplish this result, too much space must not be left in the brood-chamber when sections are put on.

Bait-combs, when used in supers not having separators, can not be placed haphazard, as they will be widened considerably at the expense of adjoining sections before those containing foundation have been worked upon. The only satisfactory way is to use a row or two of these along each side of the super.

Comb-honey supers as now constructed, while being the source of frequent complaints, generally allow greater convenience for the man than for the bees. In localities similar to ours, many who started in to raise section honey have gone back to producing bulk comb honey for no other reason. I can not but realize the great disadvantage bees are compelled to labor under in ordinary supers; and another year, notwithstanding preconceived ideas as to how section honey ought to be produced, no separators will be used in our apiary.

That more honey can be secured if we dispense with separators has been demonstrated over and over. When bees do not enter the sections readily, but crowd the brood-nest with honey, the working condition of a colony is rapidly impaired. Even with our divisible brood-chambers, I have seen honey crowded into the brood-combs until but two or three shallow frames remained for the queen. For a colony to remain populous is impossible under such circumstances.

The past season some 2000 1½ Danzenbaker sections, having beeways, were used in our apiary, without separators, and never before did I see so clearly demonstrated the necessity of having supers so arranged as to meet the natural requirements of the bees. On two sides of these, bee-

ways were cut their entire width, so that the wide frames, in which they were used, might be made with plain top and bottom bars, yet leaving no part of the sections exposed. No separators are required for so thin a section, and we find that, when disposing of honey, a full section that can be sold for a dime moves off more rapidly than one weighing a full pound.

Contrary to the opinion expressed by the editor on page 1079, though the sections above mentioned were open on but two sides, there were no uneven combs or bulging. Undoubtedly there would be an advantage in having them open all around, but we have not found this to be absolutely necessary.

If compelled to use separators, Mr. Sherburne says he would abandon comb honey and produce only extracted—exactly what most bee-keepers would advise for a locality like ours; but the environments of all are not such that this can be made profitable, and such conditions here exist. If necessary we can fall back to the bulk comb, though as yet no occasion has arisen why a change to either would be advisable.

Ft. Smith, Ark.

## GRADING AND CASING COMB HONEY.

**How the Work is Rapidly Done at the Apiary of M. A. Gill; Further Particulars Concerning the Record Casing.**

BY G. C. MATTHEWS.

The various articles appearing in GLEANINGS for the past few years concerning the rapid casing of honey have interested me somewhat, and have likewise furnished me some amusement; for, having been intimately associated with M. A. Gill for the past three seasons, I have been in position to understand what honey-handling really means, and to be able to refute those articles which, by covert innuendo, cast discredit upon the article of Mr. F. J. Farr, in GLEANINGS for December 15, 1907.

Now, that which Mr. Farr saw, which surprised him as much as it does some of his readers, is a thing of not uncommon occurrence in Mr. Gill's casing-room. There are many days every August when Mrs. Marian Fuller, of Beloit, Wis., cases just as rapidly as she did on that warm day when Mr. Farr was her waiter, though she does not frequently case so many hours.

In all this honey business the super that predominates is one of Mr. Gill's own invention, although, like others, we have several other kinds. This super is of standard eight-frame dimensions except in depth, it being deeper so as to accommodate ¾-inch slats; but it has no section-holder. The slats are nailed fast to the end pieces in the super so that there are as few loose pieces as possible—only the follower and the separators. The pattern-slats are also a little wider than section-holders, and the separators rest on top of them and not between them.

When casing, the supers are taken from the pile by the waiter, and the tops of the sections are scraped clean with a cabinet-scraper or a piece of glass. Then the follower is taken out and



the super is ready for the caser, no sections having been loosened in the super in any manner.

Now each caser places two cases in front of her on the table, one for No. 1 honey, the other for No. 2, and lifts a super up in front likewise. The sections she loosens from the super with her casing-knife, made especially for casing; and, without changing her grip on it but once, she scrapes all four sides and four edges clean of propolis. Meanwhile she has determined its grade; and just as soon as she has it clean she places it in its proper case. In all our work a section of honey is never handled, except this one time, from the hive to the car. Does it look impossible to handle  $5\frac{1}{2}$  sections of honey in a minute the way I have described? and does not this method look more sensible than putting honey in curing-crates, or dumping a wheelbarrow load out on a bench at once, as do our T-tin friends?

After the cases are filled, the caser may nail on the cover if the assistant is busy, but usually the waiter does it. However, the caser gets her own cases, and adjusts her own drip-sticks, sometimes even waiting a short time for cases to be made.

For the benefit of those who think 125 cases can not be filled in a day if the honey is properly cleaned and graded, I will say that Mrs. Fuller cuts a thin shaving off the edges of unusually soiled sections, exposing a clean white wood. Can they be cleaner? In handling empty supers I have seen hundreds containing little shavings, showing her handiwork.

Concerning the grading, I have weighed dozens of No. 2 cases that weighed up to the No. 1 standard, but never a No. 1 that fell below; and I think any buyer of this honey will testify to its quality.

It seems to me very strange that any one who lays claim to being a caser at all can not case more than twenty cases a day. Mrs. Fuller, I know, could easily average four times that many daily, and still have time to attend to housework. Longmont, Colo.

### UNCAPPING-KNIVES.

#### A Very Sharp Thin Knife Preferred Without Heat of Any Kind.

BY T. P. ROBINSON.

Referring to the discussion of uncapping-knives, page 1126, I will say that I never used any but the cold knife to any appreciable extent, and would use no other kind. I have tried knives from boiling water, and found them nuisances so far as I am concerned. In any case, the edge must be sharp and thin, and this would cool just as soon as coming in contact with the cold honey, and cut no better than a cold knife. Then if the body is boiling hot it will melt the wax and make a mess. Then the operator is constantly putting water into the honey from the knife, as a freshly heated knife has to be used on each frame. I don't want any foolishness like this in my extracting-house.

I never have any trouble with my cold knives on any kind of honey that I produce, and I have

uncapped it after frost when it was so thick that I could not get over two-thirds of it out of the combs. I keep the cutting edge as keen as a razor, while the other edge is kept moderately sharp to clean burr-combs from the top and bottom bars. The knife is ground to a long keen edge. If it is hard, the temper is drawn to a moderate degree of hardness (this drawing of temper is easy, as I am a steel-worker), and the edge kept sharp by the edge of some other knife of a high degree of hardness, usually a pocket-knife, or steel made for the purpose. The sharpening is done by a shoving process of the blade in the same manner a boy smooths a stick, except that the strokes are made in one direction. This method puts an edge on the knife far superior for uncapping to that made by any stone, since the edge thus put on is in miniature waves, similar to those on a bread-knife, and if the knife is drawn at an angle over the comb it will do the work so easily and smoothly that the operator will wonder how any knife can do so well. I have occasion to sharpen a knife only once for each 1000 lbs. of honey, and sometimes we run over a ton per knife at one sharpening. We did that several times this summer. It takes about 30 seconds to sharpen a knife in this way.

#### HONEY SOURING IN THE HIVES.

We notice that the editor, page 1139, asks some one to give a reason for honey souring in combs as in the case of Mr. Henry Perkins, Calexico, Cal. I have had trouble along this very line. It is entirely due to bees gathering too much nectar heavily charged with water. This is always prominent in the first nectar secretions of plants, and is greatly augmented by damp or wet weather conditions. The fact is, the bees gather more nectar than they can evaporate into honey. I have had my combs swell up and burst open for this same reason. In my case the remedy is simple and easy. Keep only the rousing big colonies that are able, with their heat and fanning, to cure the nectar into honey. Unite weak colonies, or contract the bees on few combs. The trouble is most pronounced in weak colonies and those having too much comb space. I have had no trouble along this line since I found out the true reason. This manipulation is necessary only when the weather is damp. Weak colonies will not be affected with sour honey if the nectar is well cured in the field.

Bartlett, Texas.

#### A SHARP COLD KNIFE PREFERRED.

I have been using uncapping-knives for thirty years. I never heated one in my life. I whet them as sharp as a razor, then polish the rest of the blade on a pine board. I have no trouble from the knife mashing the cells down. I cut both up and down. J. S. McFANICK.

Columbus, Kan., Sept. 27, 1908.

[Several of our correspondents have of late favored a cold uncapping-knife rather than one that is hot. We have not had a large number of reports on this point thus far. We should be pleased to hear from many others. Let us know the condition when a cold knife is better and those under which a hot one gives better results. Or is it possible that a keen-edged cold knife is always better than any hot knife?—Ed.]



FIG. 1.—MR. AND MRS. CHALON FOWLS, OF OBERLIN, OHIO, AND THEIR FAMILY OF GIRLS WHO DID PRACTICALLY ALL OF THE WORK IN EXTRACTING THE CROP OF NEARLY TEN TONS.

### CAPPING-MELTERS.

**Further Particulars in Regard to Melting Cappings as they Drop from the Combs; an Introduction to the Home and Apiary of Chalons Fowls, Oberlin, Ohio.**

BY H. H. ROOT.

From time to time in our columns mention has been made of capping-melters—that is, uncapping-cans arranged in connection with heat so that the cappings are melted as they are sliced from the combs, leaving nothing at the end of a day's work but the honey, the melted wax, and the small amount of refuse. During the past season we spent considerable time in developing an apparatus that would be practicable for all bee-keepers; and since it was evident that no plan of this kind could be given a fair test on a small scale we appealed to Chalons Fowls, of Oberlin, Ohio, who very kindly offered us the use of his extracting-house during the time that he was extracting his crop of nearly ten tons of honey. The cappings from the entire crop were run through a capping-

melter, although several different constructions were used before the final form was decided on.

Mr. Fowls' daughters, with the help of the gasoline-engine, do practically all of the extracting. The up-to-date method is followed of leaving the honey on the hives until the flow is about over and then hauling it to the home yard to be extracted. This plan gives the very finest honey that can be obtained, and permits the use of bee-escapes to get the bees out of the supers. These escapes are put on, and all the full supers are removed easily and quietly a day or two later without disturbing the bees in the least. The honey is hauled by wagon to the extracting-house, where it is extracted load by load as it is brought in. Very often the honey was so cold when it was extracted that it was thick and waxy; but the combs were left in the extractor until the cells were comparatively dry. When turning an extractor by hand, it is very hard to do thorough work unless the cold honey is warmed by artificial heat.

The building in the background of Fig. 1 is the extracting-house, the interior of which is shown in Fig. 2. When fast work is being done,



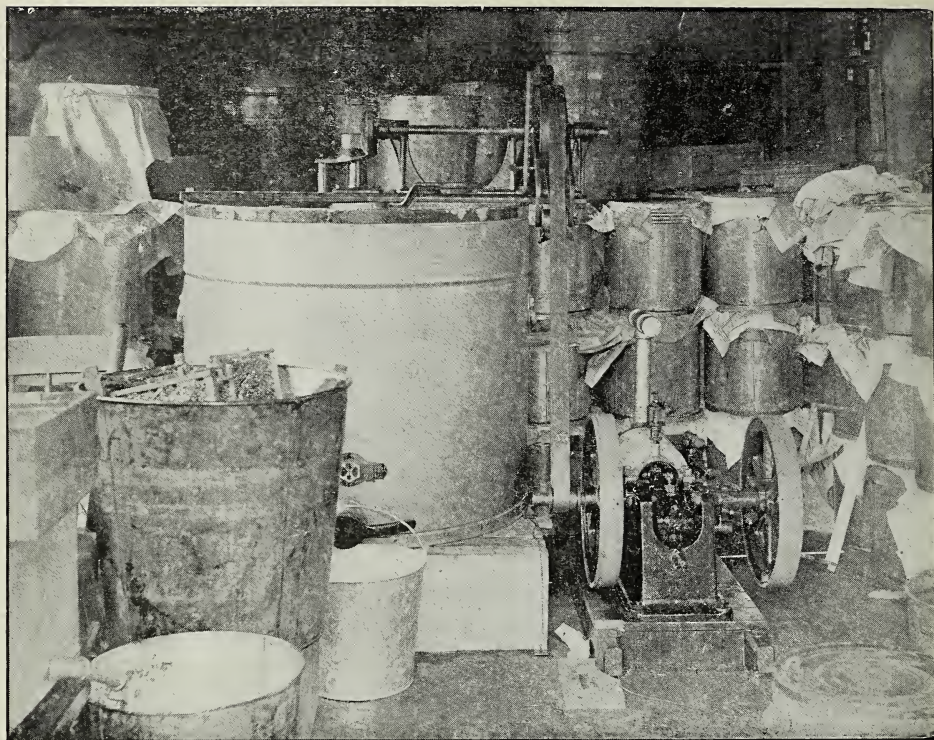


FIG. 2.—THE INSIDE OF THE EXTRACTING-ROOM.

The honey is strained into round cans holding 75 pounds each. These are stacked up around the walls of the building.

two of the young ladies do the uncapping while the third handles the combs, and loads and unloads the extractor, etc. As soon as the empty combs are taken out of the extractor they are replaced in the supers ready for the next year. At the extreme left the capping-melter is shown with a pipe at the bottom, conveying the wax and honey into a large pail on the floor. This particular melter was made square, as it was at first thought that the square form was the better. Over it an empty super was placed on which the cross-pieces were nailed to hold the frames while the combs were uncapped. The uncapped combs were placed directly in a large can in which a coarse screen was supported several inches above the bottom on which the combs rested. The honey that dripped down from the combs was thus always out of the way; and when too much honey accumulated the screen was removed and the honey poured directly into the straining-tank.

As will be noted, the honey was drawn from the bottom of the extractor into a pail and poured directly into an Alexander strainer shown on page 27, Jan. 1st GLEANINGS for 1906. Mr. Fowls found this arrangement for straining the honey the best and most convenient of any kind he ever tried. When the fine wire cloth of one pail is clogged with bits of cappings until the honey does not run through rapidly, another strainer is set over the can while the first one is cleaned with a flat stick or knife.

The honey is drawn from the bottom of the straining-tank directly into round cans which hold 75 pounds. A piece of paper is laid over the top, and the tin cover crowded down. These cans, as shown in the illustration, are stacked up around the edge of the room. The photograph was taken when about half the crop was extracted. Toward the end of the season the cans were piled up nearly to the ceiling. This plan necessitates considerable lifting; and Mr. Fowls, for another year, is planning to run the honey directly from the extractor through a tin pipe into a tank in the basement of his home.

The out-apiaries are located along the electric-car line east and also south of Oberlin. One of these yards is shown in Fig. 3. It will be noted that a high board fence is built along the west side in order to shelter the hives from the cold winds in the winter. The apiary is located in an orchard. In this view, by the side of the honey-house, is shown a Boardman hive-carrying cart which Mr. Fowls has found to be very useful.

Although trips can be quickly made to any of the yards on the cars, the honey is hauled back to the extracting-house by wagon.

A very ingenious arrangement is shown in Figs. 4 and 5 for catching the drip from the supers. As will be seen, a large tray just the size of the wagon-box was made, the edges of which are turned up about an inch. This is placed in the bottom of the wagon, and the supers piled on it. Since



most of the hauling is done after the honey-flow is over, there would be danger of having the horses stung if robber bees were continually working around a wagon-box daubed with honey; but the use of this tray prevents any such danger, as it is removed as soon as the honey is unloaded, and placed out in the yard where the bees can clean it up. In this way the wagon is always clean, and there is no loss of time in any way. The tray may be slid out of the back of the wagon when the end piece is swung down.

The Beuhne capping-melter, mentioned pages 560, 626, and 802, is somewhat similar to the other devices that have been described, except that square pipes holding hot water are arranged over the main can. The cappings fall on these pipes and are melted. The plan was found to be defective on account of the fact that the space between the hot pipes so soon became clogged with refuse, necessitating frequent cleaning, which consumed time. Furthermore, the Beuhne apparatus is very expensive; and it is difficult to keep the tin pipes from leaking, as there is constant

contracting and expanding due to the changes in temperature, and we therefore turned our attention to a simpler apparatus. We tried a shallow pan, but soon found that it was not suitable, for the reason that it required so much heat to melt the cappings fast enough that there was danger of injuring the honey. We therefore kept enlarging the double pan until we had a can about 16 inches in diameter and 15 inches high. This held the accumulated cappings and honey until the wax had a chance to melt slowly and run out of the gate at the bottom. We first tried a tilting outlet pipe which could be raised up to allow the melted wax and honey to accumulate in the can, the idea being to leave the wax inside the capping-melter, drawing simply the honey off at the bottom. However, we found that, when this plan was used, the honey remained so long in contact with the heat that there was danger of injuring the flavor. We therefore substituted the plain honey-gate, which allowed the honey and melted wax to escape immediately.

The form of capping-melter finally decided upon is shown in Fig. 6, the details of which are made quite clear by the illustration. The apparatus is simple, for it consists of only a can within a can, the inner one being an inch smaller in diameter, and  $\frac{1}{2}$  inch shorter, which allows a space of  $\frac{1}{2}$  inch between the sides and bottoms. A single-burner gasoline-stove keeps the water hot enough to melt the cappings when the honey is extracted at the rate of about 200 pounds an hour. When faster work is done it is probable that a larger can would be needed to be placed over two burners. Oval-shaped cans could be used similar

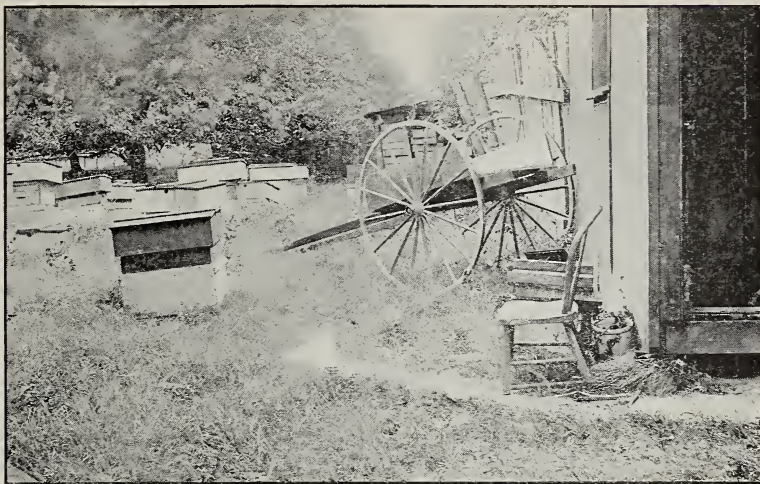


FIG. 3.—ONE OF MR. FOWLS' OUTYARDS, LOCATED NEAR THE ELECTRIC CAR-LINE.

Notice the high board fence which shelters the yard from the prevailing winds.

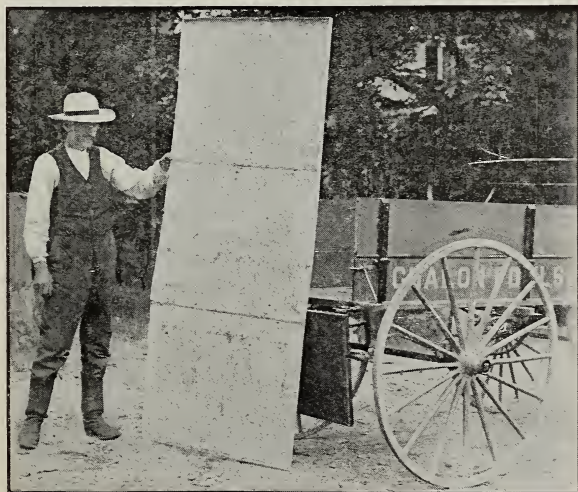


FIG. 4.—FOWLS' REMOVABLE GALVANIZED TRAY FOR THE BOTTOM OF THE HONEY-WAGON.



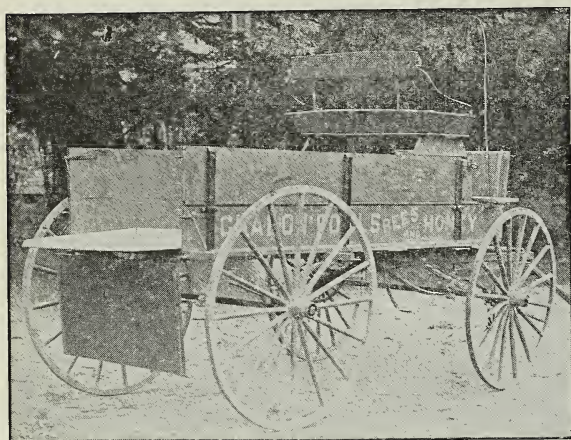


FIG. 5.—THIS TRAY CATCHES ALL THE DRIP, LEAVING THE WAGON CLEAN, SO THAT THE HORSES ARE NOT IN DANGER OF BEING STUNG AT ANY TIME BY ROBBER BEES.

as clean or even cleaner. The honey is not injured in the least, for it does not remain long enough in the can to get very hot; in fact, the cold honey and cappings falling continually into the can keep the water so cool that the wax barely melts, and it is possible for one to hold his finger in the stream running from the gate for a few seconds without burning it. As will be seen in Fig. 6, the honey and wax run together into a pail or can standing below, which is provided with a gate at the bottom, from which the honey is drawn as fast as the pail is full, care being taken, however, not to keep the gate open so long that the wax runs out. In this way the wax can always be kept on top of the honey in the pail. We found that an ordinary pail would hold the cappings from a whole day's run; but in case the work

to wash-boilers, with the strainer and gate at one end.

It will be seen in the illustration that there is room between the two cans for the blade of the uncapping-knife, so that those who desire to use a knife heated by hot water may do so without any additional tank or apparatus. However, we did not find that it facilitated matters to keep one knife in hot water while the other was being used for uncapping the combs. The difficulty was that the honey chilled the knife before more than two or three inches of the comb had been uncapped, and then the wax, which had been melted when the blade first touched the comb, hardened and made the knife gummy, and hard to handle. Usually we preferred the cold knife kept sharp. During the last day or two, however, we used a steam-heated honey-knife very successfully. Such a knife does not become cold when pushed through the honey, and both the honey and wax run off the blade directly, leaving it clean all the time. There is no question that a hot blade is more easily pushed through the comb than a cold one.

Figs. 7 and 8 show somewhat better the construction of the can. Two screens are used to strain the wax and honey. As will be seen, these are slid into place directly over the opening leading to the honey-gate. The coarser screen is used outside, and is made of wire cloth having about four wires to the inch. The inner screen is finer, being made of wire cloth the same size as that used for window-screens. These may be quickly slid in or out, so that, after the work is done, it is easy to remove them for the purpose of cleaning the can. The use of these screens was first suggested by Mr. Fowls in order to keep the refuse from running out with the wax and honey; and they serve the purpose admirably, the honey being so clean that it may be poured directly into the main tank or can without further straining. The wax is also very clean, the cakes hardly needing to be scraped. The wax has a very good lemon color, and is practically as light as that obtained from the solar extractor, and just

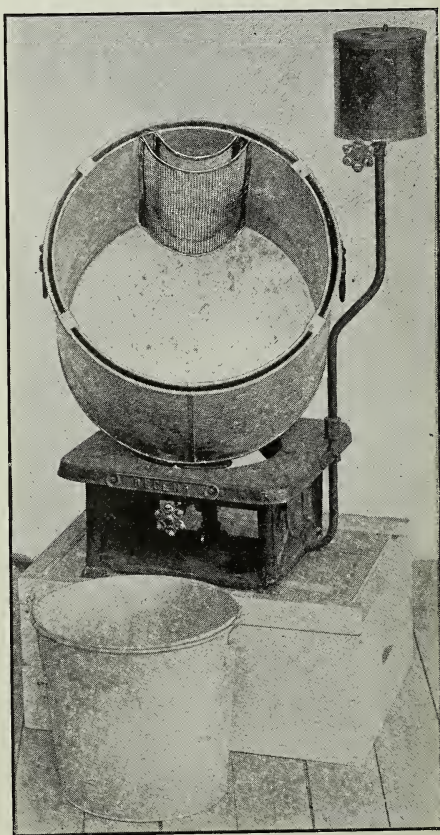


FIG. 7.—THE CAPPING-MELTER TURNED UP TO SHOW THE CONSTRUCTION.

There is  $\frac{1}{2}$ -inch space between the sides and bottom of the can, making room for about a pail of water.

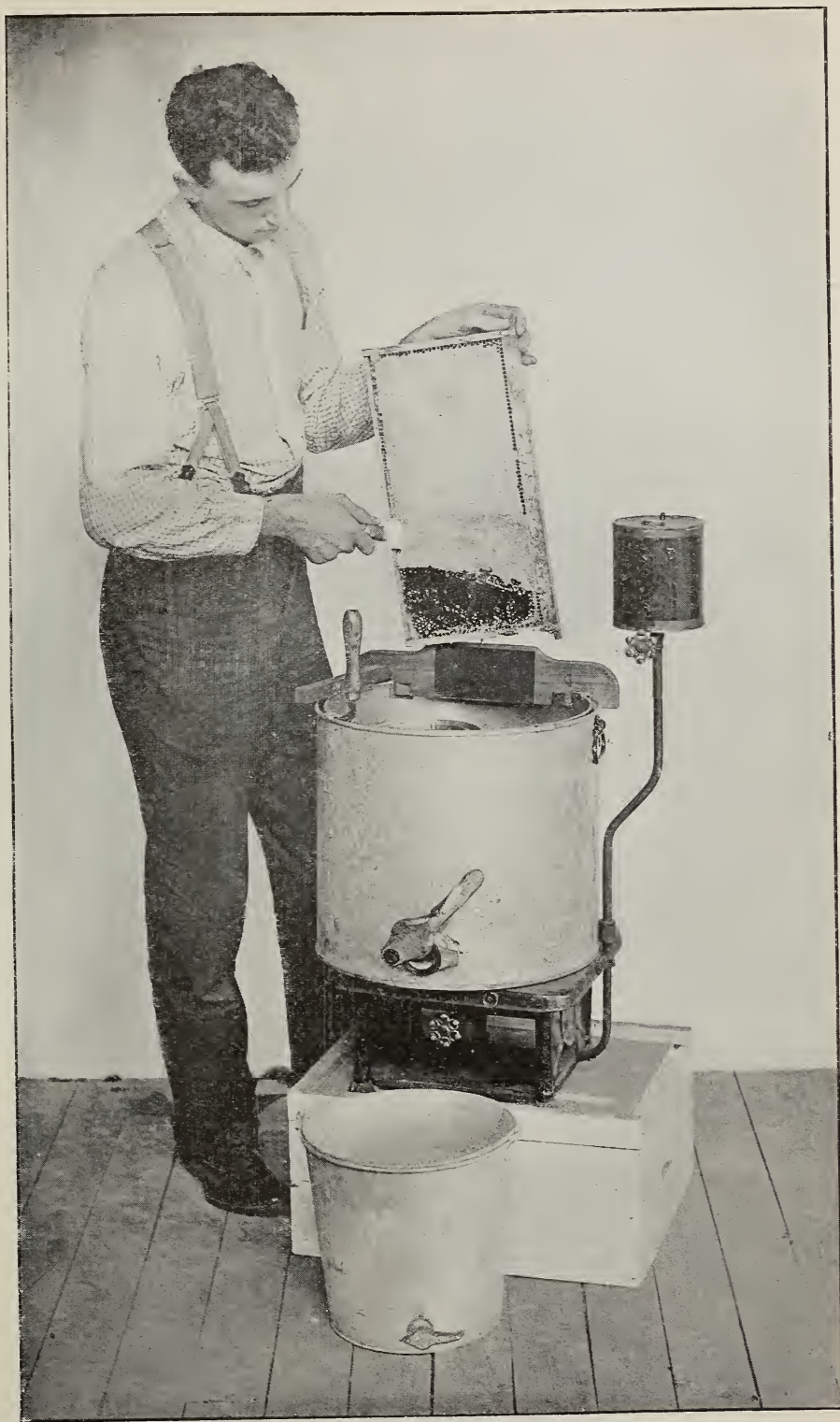


FIG. 6.—THE NEW CAPPING-MELTER.

The apparatus consists of a can within a can, the space between holding the hot water. — The melted wax and honey pass through the strainer, and directly out of the gate at the bottom.



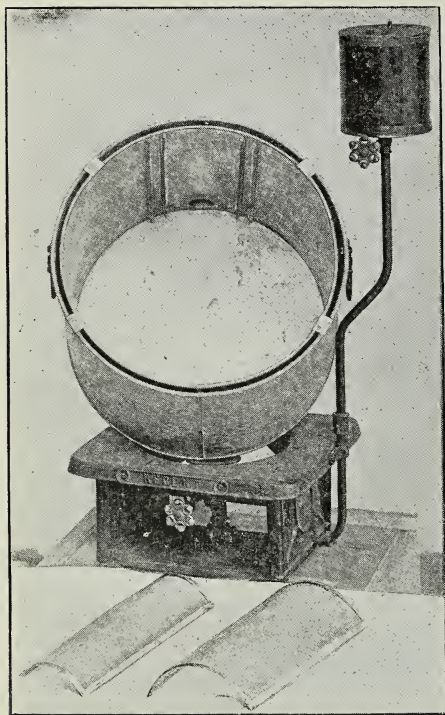


FIG. 8.—THE STRAINERS REMOVED.

These slide loosely in or out to facilitate the cleaning of the can. At the bottom the opening is shown leading to the gate.

were done so rapidly that too much wax accumulated in the pail it could be dipped off the top into a shallow vessel to cool. Another plan is to run the honey and wax into a large can, which, when full, may be set aside and another one placed under the gate of the melter. This method is all right except that it is necessary to have a number of cans standing around in the way containing honey, with an inch or so of melted wax on the top.

The apparatus described in the May 1st issue, page 559, by J. Y. Peterson, is a plan somewhat similar, except that the cappings and honey must flow over a long heated surface, and in our opinion there would be greater danger of injuring the flavor of the honey by such a process. It will be seen in the form we have developed that much of the honey can run out of the gate at the bottom without becoming heated to a great extent by long contact with the hot sides of the can.

When we first showed Mr. Fowls the plan of melting the cappings he was skeptical about having a gasoline-stove, etc., in the honey-house, thinking that it would be inconvenient to have so much apparatus around; but he is now of the opinion that a capping-melter is a great convenience, and that the simple apparatus needed is really less extensive than that which would be needed to hold the cappings in the old way, allowing the honey to drain out. It is certainly surprising how small an outfit is required to do so much work. Besides melting cappings, the double-

jacketed can is just the thing for liquefying honey, either comb or extracted. The strainers may be removed, leaving a first-class liquefying-tank, which may be used over any stove without danger of injuring the honey, since the hot-water heat can be so nicely regulated.

### CAPPING-MELTERS.

#### An Efficient Home-made Device for Melting the Cappings.

BY HARRY LATHROP.

I have been much interested in what has been published regarding devices for melting cappings when extracting. I doubt very much if any one can succeed in forcing bee-keepers to pay for the right to use a principle which has been common, as the editor mentions, in the operation of the German wax-press.

In my experimenting I began by placing the cappings in a flat-bottom can that had a faucet at the bottom. I placed the can on the stove, but raised it up half an inch or so by placing small pieces of iron under it in order to provide an air-space between the can and the stove. The faucet being left open, and projecting over the edge of the stove, the melted wax and honey ran out into a pail. It worked, but not perfectly. The honey was somewhat discolored from overheating. After reading of Mr. Mercer's plan I had the tinner fix a melting-pan by taking a large stamped tin dishpan, placing one a size smaller in it and connecting them together with braces, leaving an inch space between them on bottom and sides for water. A half-inch copper tube reaches from the bottom of the inner pan through both pans, and projects eight inches. In use, this double pan, with inner space filled with soft water, is set directly on an ordinary cheap gasoline-burner. A comb-rest is provided by means of a piece of pine board run through the handles of the pans. A small nail driven through from below makes a point to hold the frame while uncapping. The stove is kept burning continuously while extracting; and if it does not quite keep up with the work it can be left burning during the noon hour or after the day's work is finished. I can see no danger from leaving it, but be sure that the pail under the spout is large enough to hold the contents of the pan. It works finely, and I see no need of any thing better. The wax and honey run out into a pail, but there is a certain amount of slumgum that will accumulate in the pan. This is kept from running out by means of a piece of tin notched on the under side, set about  $\frac{1}{2}$  in. back of the spout. After the pan has cooled, this slumgum can be peeled out in the form of a cake, to be run through the Hatch-Gemmill press if the bee-keeper is so fortunate as to possess one of those desirable machines.

Any machine devised to use any more heat than I have indicated, or any plan to run the honey over a larger heated space, will injure it. The honey must run out freely as soon as melted, and one should use the minimum of heat. We now have no cappings on hand to bother at the close of each day's extracting.

In producing extracted honey we tier up several stories high if necessary, placing seven combs

in an eight-frame body. The combs are mostly sealed when we extract, and very heavy. We cut down to the frame in uncapping, thus securing a large amount of wax and leaving the combs in nice shape for future use. We have always a set of empty or partially filled combs next to the brood-chamber to catch the green honey, and thus avoid getting any of it into the extractor. This new way of getting rid of the cappings I consider a great improvement and one that will come into use rapidly.

Bridgeport, Wis., Aug. 19.

[It may be well to state that both Mr. Lathrop and the editors of GLEANINGS were working on this plan independently until the above article was received in August, showing that Mr. Lathrop had arrived at practically the same conclusions in regard to the plan.

Mr. Lathrop and Mr. Fowls soon saw the importance of allowing the honey and wax to escape as soon as possible in order to increase the capacity of the can, and to prevent any danger of injuring the honey.—Ed.]

## OUTDOOR WINTERING.

**Holes Cut Through the Combs to Permit an Easier Passage from one Part of a Hive to Another.**

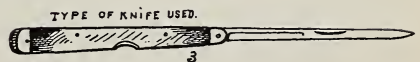
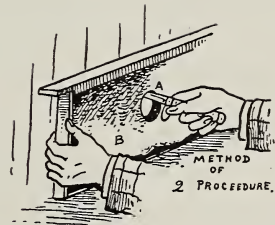
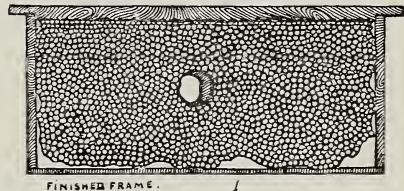
BY C. O. FLUHARTY.

My bees are all in regular ten-frame hives, well filled with solid slabs of honey, sufficient to winter three ordinary hives of bees. However, in years past, colonies died just the same, and I was surprised to find the mortality greatest in the hives that contained the most food. I decided that this was due to the fact that, when once these solid masses of honey became cold, the bees were unable to generate heat sufficient to rewarm them. Then with the appearance of a sunny day dozens of bees would leave the cluster and roam about over the surface of these combs. As night approached and the air became cooler these bees once more drew toward the cluster for warmth; but each time this would occur, numbers of stragglers would become isolated from the main cluster and collect together in the form of compact little knots on the surface of the outside combs, where they slowly chilled to death. In this way I found by actual observation that strong hives of bees positively dwindled down to a mere handful, and, with a sudden fall of the temperature, they would succumb. I was not prepared to cellar my bees, so I tried the tarred-paper plan and found it all right, except that there was too much labor and expense connected with it; so I started experimenting, with the result that I no longer lose any colonies here in my home yard from the rigor of winter, and it is pretty cool here too (17 degrees below zero last winter four nights in succession).

Here is just the plan I have hit upon, and the one I mean to follow until somebody shows me that I am wrong: Late in October, after all the honey-flow is past and Jack Frost has cut down all the flowers, I go into my yard armed with only a large pail and a long slender-bladed knife (the type generally known as a "physician's

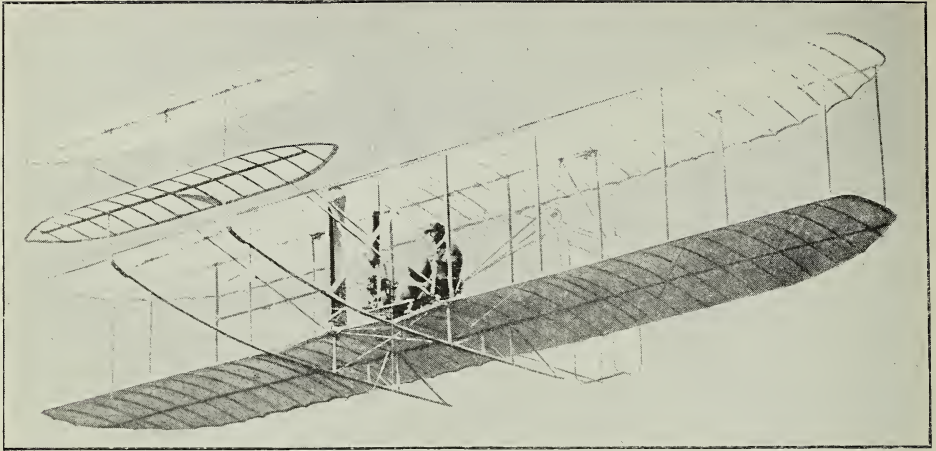
knife" is best). I have the knife whetted to a razor edge. As it is late in the evening I experience no trouble from robbers, so I at once proceed to open the first hive I come to. This done I remove the frames in the center of the hive one by one, and, after shaking the bees off very close to the entrance of the hive, I place the comb firmly against some very solid object and begin by cutting out a circular piece of the honey  $1\frac{1}{4}$  inches in diameter, directly in the center of each comb, replacing each comb as soon as the hole has been made through it, and putting the circular chunks of honey in the pail. Having cut this opening through eight of the frames of honey and brood (always leaving the two outside ones intact) I close the hive and proceed to the next one.

The bees clustering in a hive are compelled to keep each frame of honey warmed to a certain point all of the time or there will be grave danger of the entire hive perishing, it being very similar to a person lying down to sleep upon a block of ice with another block over him. Once the honey becomes chilled through, most of the heat communicated from the bees passes back and forth over or under the frames, especially over them; consequently I think you will agree with me that a hole through each of the central frames is what is needed to remedy this, and concentrate the warmth of the hive.

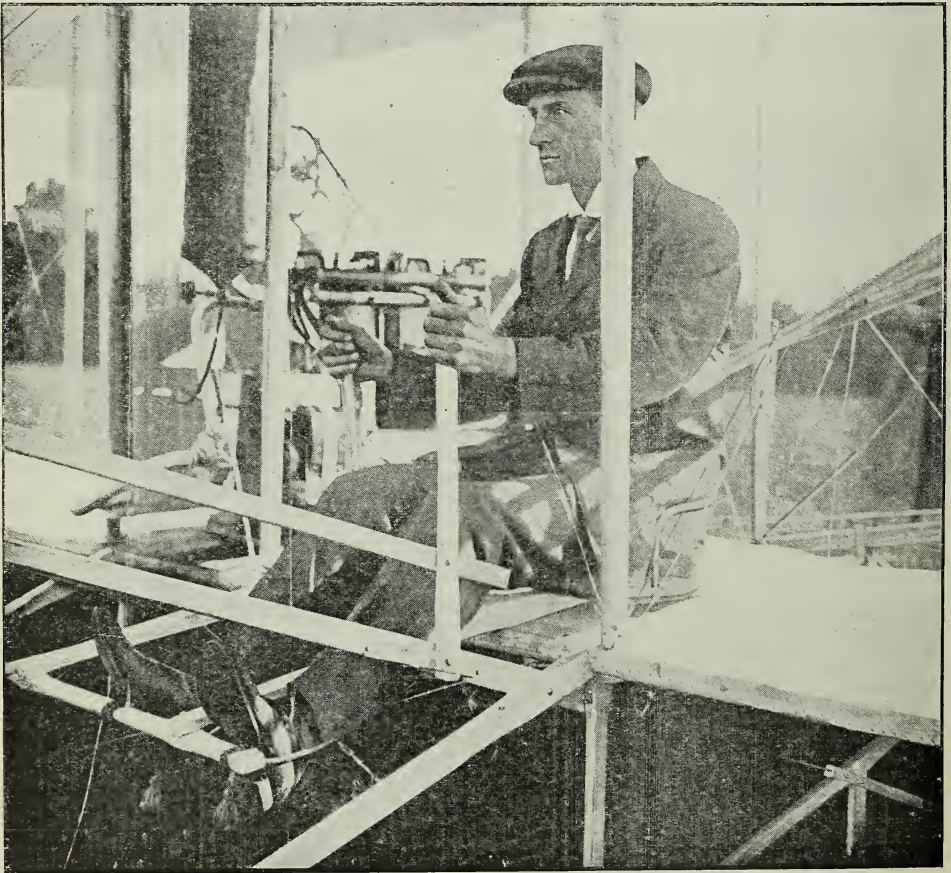


Since adopting this method of preparing for winter I have not lost a single hive of bees. Two years ago I tried this plan at the home yard on eight hives that were not so well stocked with bees as they should have been, and, to my surprise, they came out in better condition than the ones that were stronger in bees in the fall. Last winter I tried the same plan with 35 colonies, with no loss whatever, and this winter I mean to prepare all the colonies in my home yard in this way, as I have full faith in its merits. However,





WILBUR WRIGHT IN ONE OF HIS FLIGHTS, SUCH AS HAVE RECENTLY TAKEN PLACE AT LE MANS, FRANCE, DURING THE PAST SUMMER.



WILBUR WRIGHT AS HE SAT DURING A FLIGHT IN HIS FLYING-MACHINE.

We copy the above pictures from a French paper entitled *La Vie au Grande Air*. The article was written by Wilbur Wright himself.

I would not advise any brother bee-keeper to try a large number of hives in this manner as a first experiment, as the locality might have something to do with the success of the plan. One of the very best features of all is the fact that hives treated as above will come out in the spring with at least three more frames of brood than hives at like period that did not have the holes through the frames. The bees always fill in all of these pop-holes before the close of the apple-bloom.

Sandusky, W. Va.

[The arrangement of having a hole through the center of the brood-combs has been used to a greater or less extent for a good many years. If we are correct, father Quinby away back in the 60's practiced it. The trouble is, it results in the mutilation of combs; and while, as you say, the bees will fill it up again at the next honey-flow, they are likely to put in drone comb. But with the ordinary Langstroth frame we question whether such holes are necessary, provided there be left a bee-space over the tops of the frames. It is the general practice now to use sealed covers, and this will leave a clear bee-space so the bees can go back and forth. If absorbing cushions are used it is the general practice to use corncobs, sticks, or what is known as the Hill device, over the center of the cluster. The purpose of these is to hold the cushion up, leaving a clustering space over the tops of the frames. The sealed cover with a bee-space, the Hill device, or its equivalent, will render such mutilation, in Langstroth frames at least, unnecessary.—Ed.]

## GETTING COMBS BUILT SOLID TO THE BOTTOM-BAR.

### More About Splints for Staying Foundation.

BY DR. C. C. MILLER.

J. W. Kalfers sends some questions that he requests me to answer in GLEANINGS, which I proceed to do without repeating the questions.

I have had experience several years with several hundred divided bottom-bars. The chief advantage is that you can very quickly and easily have your foundation securely fastened to the bottom-bar and have an exact fit. But it is no better than to cut the foundation to an exact fit and wax it to a plain bottom-bar, if you are willing to take the trouble. Indeed, I doubt if it is quite so good. Bees are inclined to have a passage between the comb and the bottom-bar, and it's a little easier for them to gnaw such passage with the divided bottom-bar than where the foundation is waxed on a plain bottom bar.

My bottom-bars are the same width as top and end bars— $1\frac{1}{8}$  inches. While this width has advantages, I'm a bit suspicious that bees are more averse to building comb down solid to it than to something narrower. Perhaps such wide bottom-bars seem to them like the floor of their dwelling, and they want the floor free to walk over.

Some of my combs are built solid to the frame, bottom, sides, and top, and are a comfort to look upon. But too many have more or less of the foundation gnawed away over bottom-bars, be-

cause given at a time when little or no gathering was going on. At such times bees have leisure to make a passage under combs, so as to make things as they, not you, think they ought to be. If rushed at taking care of the honey that is coming in, they haven't time to do any gnawing, and the comb is built down to the bottom-bar. So make sure to give frames to be built out at a time when honey is yielding if you want them built down to the bottom-bar.

When putting in foundation with splints, the foundation is not waxed to the end-bars. There is no trouble in getting the bees to build solid to end-bars if the foundation touches, or if it nearly touches, the end-bars. Indeed, I do no waxing at all, for the up-to-date kerf-and-wedge method of fastening to top-bar is used. Of course, waxing to the top-bar is just as good, but more troublesome. In no case would I wax to the end-bars; but I would have foundation securely fastened at top and bottom.

Even when divided bottom-bars are used, it might pay well to run melted wax along the bottom-bars to make it harder for the bees to gnaw a passageway.

New combs built on splints ought not to be more likely to break in the extractor than wired combs. If any difference, they ought to be less, for the splints are more rigid than wire.

To avoid the trouble of new combs breaking in the extractor, I know of no better way than to favor them a little until they begin to grow old. Put a heavy new comb into the extractor, and turn rather slowly until the honey from one side is perhaps half emptied. Reverse, and empty the second side. Reverse again, and complete emptying the first side. Of course, if you want to take the trouble, you can be still more careful, reversing more times, and emptying less at each reversing.

Marengo, Ill.

## BEE-KEEPING IN THE BRITISH ISLES.

### A Description of the Methods and Appliances Used.

BY JOSEPH TINSLEY.

Bee-keeping in the British Isles, which includes England, Scotland, Ireland, and Wales, is carried on under conditions far different from those in America, owing to the climatic conditions. I do not believe there is a single bee-keeper who depends entirely upon his bees for a livelihood; but many combine market-gardening, poultry-keeping, etc., with it. As an illustration showing the fickleness of the climate, take the past season. I am the recognized lecturer and expert in the county of Stafford for the Staffordshire Bee-keepers' Association; and in my trips to inspect hives and give advice I have seen many apiaries totally devastated on account of insufficient honey to keep them going in the months of June and July, which are generally considered our best months for the gathering of the nectar.

I should, first of all, explain that England is divided into 52 counties, or divisions, and in almost all of these divisions there is an association which is composed of a number of bee-keep-

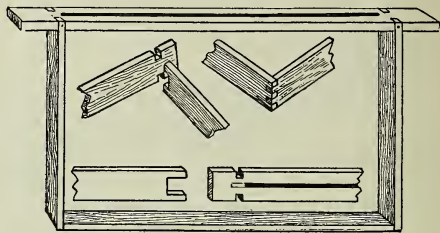


ers. The average membership of the various societies I should roughly estimate at 300; but this will not adequately represent the bee-keepers, as many will not join, although it is to their interest to do so. Well, the advantages are many; but the chief one is to employ an expert to visit and inspect their hives free of cost, and in the winter months to take a lantern and lecture in the outlying districts and thus cause the spread of bee-keeping all through the county. The fee for membership is very little.

Now, where we are very much in front of America is in the way of holding exhibitions of honey, bees, and beeswax. Almost every county town has its annual flower show, and we endeavor to persuade the various committees to hold also a competition for honey, etc.

Needless to say, this is soon attended to, and the small show continues to grow each year. Our association then offers, for competition, silver and bronze medals, and thus generate interest

tural Hall, London, for a week at a time, and are visited by many thousands of people. All these methods tend to bring home to the British public the value of honey, and thus it is that the consumption of this article far exceeds its supply, with the result that a large quantity is imported each month from your country and others.



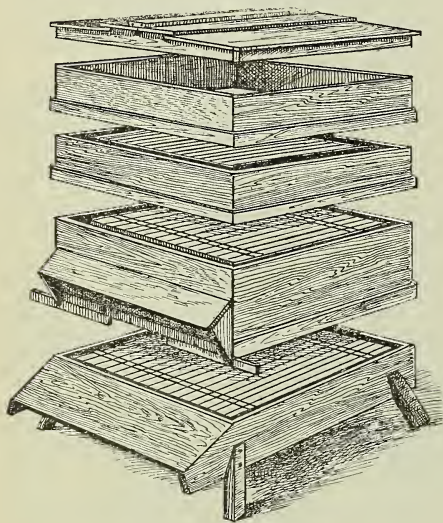
Accurately cut by machinery. A fine pin driven through each joint keeps the frame rigid. The top-bar has a saw-cut for fixing the foundation.

It should be noted that we have three bee-papers—the *British Bee Journal*, weekly; the *British Bee-keepers' Record*, and the *Irish Bee-keepers' Journal*, monthly. In addition to these papers almost every horticultural and agricultural newspaper issued devotes a small column to hints on bee-keeping, and, as a matter of fact, I contribute to several, giving work for the week, etc.

Now that I have described bee-keeping generally in our islands, I will explain the type of hive, appliances, and modes of working.

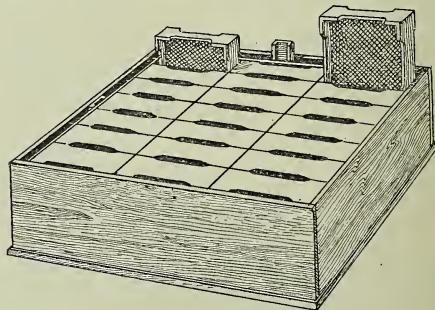
The hive most used is that known as the "W. B. C.," which is named after the inventor, Mr. William Broughton Carr, the present editor of the *British Bee Journal*.

It consists of separate inner and outer bodies, with a dead-air space all around of  $1\frac{1}{2}$  inches. At the bottom of the hive a set of small frames is arranged. This is to prevent swarming, as, instead of clustering, they will fill the bottom portion with honey, and then the bee-keeper can withdraw the box and replace it over the brood-nest, or on the top of the other supers. There is a sliding arrangement at the back; and to prevent the bees from sticking the body down, the bee-keepers put on a small coat of vaseline. It should



THE "W. B. C." HIVE.

is displayed. Then I attend the show, and with the bee-tent, which is composed of mosquito-netting to keep all the bees inside, I give a demonstration on handling live bees, explaining their habits, how to commence the subject, the value of honey as a food, etc. This is generally watched by a very large crowd, and many people take up the business. The exhibition also induces many to try honey for the first time, and people are also able to see the genuine article, and thus they are educated against any adulteration. The county of Stafford, by the way, is comprised of 744,984 acres, and the population is 1,236,919. Of course, some of the other counties are much smaller and the others larger. It should be mentioned that each association is affiliated to the parent body, viz., the British Bee-keepers' Association, which has its seat in London. Here examinations are conducted for the purpose of bee-keepers qualifying for experts. Honey exhibitions are arranged which are open to the whole of the British Isles. These are held in Agricul-



CHEAP RACK HOLDING 21 SECTIONS.

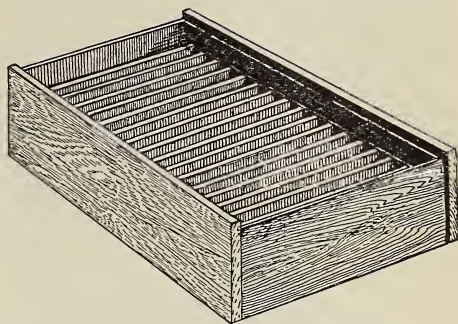
be mentioned that we have a standard hive and frame. The standard hive, as per illustration, consists of a body-box which holds ten frames, with accommodation for any quantity of surplus room over the top of this chamber. The bodies

are all made the same size, and one will fit the other. The size of the brood-frames is as follows: Top-bar, 17 inches; bottom-bar,  $14\frac{1}{2}$  inches; width of top,  $\frac{7}{8}$  inch and 9 deep. These are fitted with adjusting metal ends.

Above the brood-nest, shallow bars or sections are placed. The shallow bar is nearly half the size of the deep bar; but in order to have a thicker comb for extracting purposes the number is reduced to 8 instead of 10. Each set of frames is fitted in the box, which we term a super. In regard to the section-racks, we have two styles—the ordinary rack, holding 21 sections  $4\frac{1}{4}$  by  $4\frac{1}{4}$  by 2, and the W. B. C. crate, which holds the same number, but they hang in a frame. The taller sections do not find such a sale here, and very few bee-keepers have adopted them, the greater demand being more for extracted honey than comb.

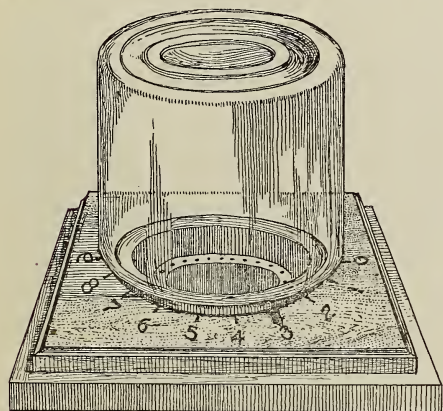
The entrance is narrowed to 2 inches. It should be mentioned that the hive-entrances are sunk into the wood, and just allow sufficient space for the bees. No mice can enter, so we

teeming with bees. To give an idea of this, our comb averages on both sides about 5000 cells, so that in the 20 combs you have available space for



CANADIAN FEEDER.

100,000 eggs; and, taking off one-tenth for pollen, waste cells, etc., you can thus get an idea of the breeding-ground of the queen. When the flow arrives we often as not have a working force of 80,000 to 120,000. As soon as the honey comes in, the queen is placed in the bottom box, the hatching brood placed in the top, the unsealed larvæ in the bottom, and two or three extra supers given to the colony. The top box, which the brood is still in, is also used as a super as the bees hatch out. Thus Her Majesty is, to a great extent, prevented from egg-laying, and using honey at an important time, because you must take into consideration that every pound of larvæ means many pounds of honey, and you can get larvæ produced by sugar-feeding



RAPID SPRING FEEDER.

English bee-keepers have no real winter enemies. The bees are fed up about the end of September, and no more attention is paid until the middle of March. By this time the bees have generally consumed all or nearly all of their winter stores; and the bee-keeper, after making an examination on this point, commences to feed them gradually with syrup made from a recipe similar to the one given above, and a small quantity is given to the bees each evening.

This has a stimulating influence on the queen. The amount of syrup is gauged just so that it is sufficient for the bees' requirements, and does not enable them to store any; consequently the queen lays at an enormous rate, and about the middle of April another set of deep combs (10) is given over this brood-nest for the queen to continue her laying. We call this "doubling." Now she has 20 combs to continue her laying, and in another three weeks' time the whole lot will be alive with eggs, larvæ, and pupæ in all stages. The honey-flow commences about the middle of June, and lasts only during portions of the months of June, July, and August, so that, when the flow does arrive, we have the hive



at 2 pence per lb., while the honey would sell at 7 or 8 pence.

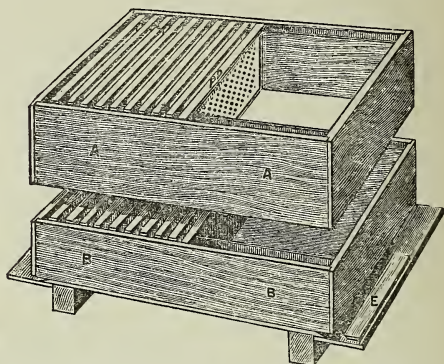
Another method is to put two colonies together by making a nucleus of the queen and one bar



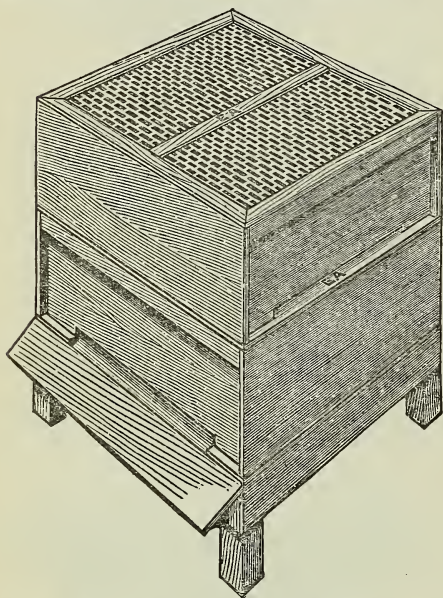
of brood. This process gives excellent results, and the little stock will work into a good one by the end of the year. The harvesting and extracting of the honey is done very much as you do it in your country; but of course the quantity per hive is considerably smaller, and a little extractor called the Guinea is the favorite here.

We have three main crops of honey; viz., fruit-blossoms in the spring; white Dutch clover and sainfoin in the summer, and heather in the autumn. The former produces a dark strong-flavored mixture, while the clover produces a flavor and color similar to the sweet clover of America. The heather is the most prized, and seldom if ever

to take her course and supersede as required. There are, of course, a few scientific queen-raisers, but nothing as in your country. In the au-



Double two-story stock hive with Wells' perforated divider between. From 1893 edition *Modern Bee Farm*.



Manner of working two or more queens on the tiering plan, either with one or four entrances. From 1893 edition of *Modern Bee Farm*.

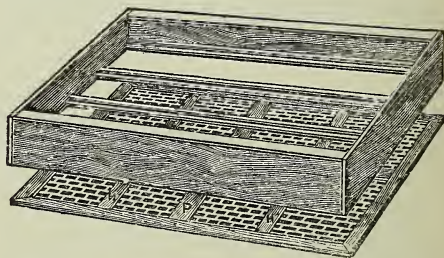
does the price exceed 25 cents per pound. It has a reddish color, and is of a jelly nature. It being impossible to extract the nectar by the aid of an extractor, the combs have to be completely smashed up and the whole lot placed in a press and the juice squeezed out. Very rarely, however, is much of this honey gathered, as the weather is generally unfavorable when the plant is in bloom.

The working of the hive must necessarily be confined to the four seasons. The bees are, of course, wintered on their summer stands, and, with plenty of overhead packing, consisting of carpets, sugar-bags, papers, etc., and with 30 lbs. of honey, they are safely housed against the storms. If the colony has not sufficient of its own honey, then it is fed up to this amount with sugar syrup made as follows: White lump sugar, 10 lbs.; water, 5 pints;  $\frac{1}{4}$  oz. salt;  $\frac{1}{2}$  oz. vinegar, and a teaspoonful of naphthol beta. The latter is for foul brood. The whole mass is thoroughly boiled, and fed to the bees in a Canadian feeder over the tops of the frames.

Queen-raising is not practiced to a great extent in England, many believing in allowing Nature

to take her course and supersede as required. There are, of course, a few scientific queen-raisers, but nothing as in your country. In the autumn many people send wagonloads of hives to the heaths and commons for the heather harvest, and excursions are planned by associations to have a day among them, when useful information is imparted by the experts. The railway companies also have a special rate for the conveyance of such traffic. What we lack is more favorable climatic conditions; and if we had weather similar to yours we could, I have no doubt, hold the first place in the world in the art of bee-keeping.

I should mention, with regard to the dual system, which some of your bee-keepers are advocating, that we practiced that years ago but discarded it. We called it the Wells system, but, of course, the queens were kept apart by means of a perforated dummy.



Queen-excluder, fitted in frame, shown under super crate common to both sides. From 1893 edition *Modern Bee Farm*.

#### UNITING WITH SWEETENED WATER.

In uniting two hives of bees did you ever try soaking them with a spray of sweetened water till they were all dosed in good shape?

H. J. WITHERELL.

Glenmary, North Falmouth, Mass.

[This is an old and very common practice. It is no better than a little smoke, and not so convenient. See editorial on uniting, Oct. 1, page 1178.—Ed.]

## HEADS OF GRAIN

### FROM DIFFERENT FIELDS

A SWARM THAT LEFT THE PARENT COLONY HOPELESSLY QUEENLESS; THE ALFALFA-BLOOM LOUSE.

In Stray Straws, August 15, Dr. Miller questions whether a swarm will leave the parent hive hopelessly queenless, and in a footnote you ask for more evidence on the subject. I had the exception which proves the rule occur in my yard about three years ago. The colony was a strong one, and on finding them queenless, hopelessly so, I gave them a ripe cell from my breeding-queen. This cell hatched all right; and later, when the swarm issued with her, and clustered in an oak-tree, I went on with my work in the yard, being sure they would return to the hive. Imagine my surprise and chagrin to see them, when they broke cluster, depart for the woods.

Recently I noted in GLEANINGS a reference to the damage to alfalfa, or, rather, to the honey-yields from it, by what was termed the alfalfa-bloom louse, and I am wondering if it can be the same insect that seems to be playing the mischief with nectar secretion in the palmetto and other bloom here. This is a very small, brownish-colored louse, which appears in the newly opened bloom, and not only saps the nectar as fast as it forms, but also blights or prematurely dries up the blossoms. It is owing to this pest, I believe, that we have had no really good flows from either saw or cabbage palmetto for the past four or five years.

C. S. HARRIS.

Holly Hill, Fla.

NO DANGER OF BREAKAGE IF STRAW IS USED UNDER CRATES IN WAGON.

Tell Mr. Johnson, page 1139, Sept. 15, that by placing three or four inches of straw under the honey it can be safely hauled on a lumber-wagon. The straw should be three or four inches thick when the full load is on it. I have had lots of experience, and have never lost a section of honey.

I. C. BACHTEL.

Cedarville, Cal.

[Straw is cheap, available, and an excellent cushion in the bottom of crates holding shipping-cases, in wagon and car bottoms. It is used very largely in all these places; but its use should be more general yet. The following plan is a good one.—Ed.]

HAULING COMB HONEY SUCCESSFULLY ON A SPRINGLESS WAGON.

On page 1139, Sept. 15, Mr. John H. Johnson asks if comb honey can be hauled safely on a lumber-wagon without springs. Yes, it can if it is crated right. We have shipped thousands of pounds of comb honey to different points, such as Richmond, Va.; Washington, D. C.; Huntington, W. Va.; Ashland, Ky.; Coal Grove, Ohio, and all our adjoining counties, and other places too numerous to mention, and we have never yet heard of a case getting mashed or broken.

Here is the way we pack the honey for shipment. It is first put in the regular 24-lb. ship-

ping-cases, and packed one, two, three, or four cases, according to the size of boxes used. If one has no drygoods-boxes, as many as necessary should be made, each box two or three inches larger on the inside, and three or four inches higher than the cases, to make room for packing material. A box to hold four cases, two tiers high, should be 20 inches wide, 29 long, and 14 high. Pack all around and under the bottom cases with hay, straw, shredded cornhusks, or excelsior—all are good. Have a slatted cover for the box, and strips nailed on ends for handholes. Mark the box-cover "Comb Honey—Handle with Care." Name and address, and it will go safely anywhere on almost any kind of road. I would not advise putting more than four cases (96 lbs.) in one box, and the boxes should never be more than two cases high.

We live 35 miles or more from any railroad, and every thing has to be hauled in or out on wagons, and none of them have springs. We send honey on them to the depot to be sent by express or freight to consumers at different places, and we have always received encouraging reports. Our roads—well, I don't think they could be much worse anywhere, for this is a rough, rocky, and mountainous country.

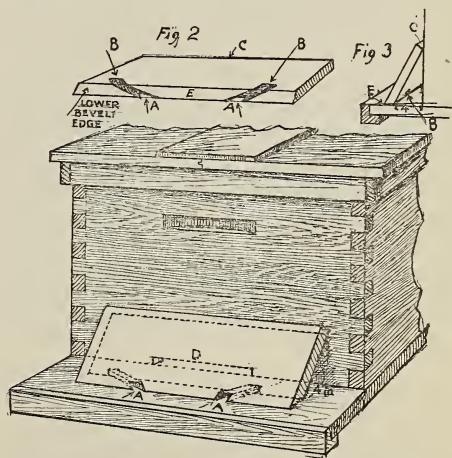
Grundy, Va.

W. J. D. BOOTHE.

[The plan here spoken of excellent. The straw forms a cushion on all sides.—Ed.]

A WINDBREAK FOR SINGLE-WALLED HIVES.

In the last 15 years I have found what I call a windbreak absolutely necessary with single-walled hives, especially in the spring.



The affair is simply a thick piece of wood. The lower edge is beveled, and is provided with slots about 5 inches apart, and cut diagonally across the edge at an angle of 45 degrees. The idea is to direct the air to either side of the entrance rather than straight toward it.

Saltsburg, Pa.

G. W. MARTIN.

A PIT FOR WINTERING BEES.

A year ago I wintered 14 colonies of bees in a pit, and lost only one. The entrance to that one got clogged with dead bees, and they smothered.



I don't know how many colonies were in the cellar; but I did not have as good success with them. Last winter I put 22 colonies in the pit, and all came through finely, and were so strong that I put supers on all of them at the commencement of apple-bloom.

Here is a puzzler to me: One colony that was on the bottom of the pit got the entrance completely covered with dry dirt that got in through a hole in covering them. When I saw them I said to my helper, "Here is a dead one," and I set them down and jerked the cover off. Imagine my surprise. They were alive and all right. I had 79 more colonies in a dry cellar—one that I would call an ideal cellar; but I have lost six, although some of them wintered finely. I intend to put all my colonies in the pit next winter.

F. W. WALRATH.

Waterloo, Ia.

[Beginners should be cautioned about attempting to winter bees in a pit unless they have a sandy soil or provide good drainage in case of a clay soil. What is more, they should not try the experiment on too large a scale. Pit wintering depends on a good many conditions; and one will have to determine whether the plan is feasible or not for the locality by first testing it on a small scale.—Ed.]

#### IMPROVING A LOCALITY.

I live in an open pine-woods country, and bees scarcely ever make more than they need for winter use. Could you name some honey plants or trees that would thrive in this climate and soil that I could plant and cultivate so that my bees could get a sufficient amount of nectar so that I could get honey for home consumption?

Simpson, La.

ELIJAH WILLIAMSON.

[You would be safe in trying sweet clover in your locality. It does not need cultivation at all, and in time will improve the soil for other crops. It grows very luxuriantly in Louisiana, more especially in the sugar-cane fields. Both in Mississippi and Louisiana it is a valuable forage-crop. Alfalfa grows well in your State. Alfalfa, or pin clover, will probably grow well in your section. You can possibly secure some seed from Arizona of the last-mentioned plant. Buffalo clover is worth trying, as it grows in Texas. If we knew what sort of soil and climate you have we could advise more intelligently.—W. K. M.]

#### A FURTHER SUGGESTION IN REGARD TO A HIVE-CONVEYOR.

On page 1119, Sept. 15, Mr. F. G. Marbach's idea of a hive-lifter and conveyor looks pretty good. But wouldn't it be better, instead of using only two posts and a wire cable, to make a track of 2x4 or 2x6 lumber, and have it supported by posts, say every 8 or 10 feet, by means of cross-arms extending 20 or 24 inches from the posts, to give room for a load of supers or hives to pass the posts? Then a traveler similar to a barn-door hanger could be used to run on this track with a tackle or other hive-lifting device attached to it. This would have the advantage over the cable in being more rigid, and could be continued to an indefinite length. It could be

run right to the door of the honey-house, so that no wheelbarrow or cart would be needed. If it were necessary to cross a road or driveway a section or two could be made removable, so when not in use it could be taken down out of the way.

Blanket, Texas.

A. A. ASHLEY.

[Your plan is perfectly feasible, and perhaps better, but more expensive. It would have the advantage that the track could be curved, and this might be very important in some cases.—Ed.]

#### PROPOLIS FROM WAX.

A few years ago I had a cake of bright-yellow wax lying out in the yard under some shade-trees. One day I noticed some bees on this wax. I watched them a while, and found that they were gnawing on the wax and putting it in their pollen-baskets. As nearly as I could tell there were only six of them. I looked over the hives in the yard, and found that those bees were daubing up a crack between the cover and hive-body on a certain hive; and, as nearly as I could tell, those few bees were the only ones working on this cake of wax. I watched them perhaps half an hour, and saw that, during their manipulation of the wax, it got darker, and almost resembled, according to my eye, the propolis on the hive in other places. Some time after that, having occasion to open this hive, I noticed that the wax those bees deposited was the genuine stuff called propolis, in color, stickiness, and smell; and ever since that time my belief has been that propolis is manufactured by the bees out of wax mixed with some substance to change it chemically. That the bees never gather any substance to use as propolis I will not claim. During the summer and fall the mesquite exudes great quantities of a gum we call mesquite wax. We gather it and dissolve it, and make a very fine glue. Now, I ask you, why do not the bees gather this glue? I have never seen any bees, nor have I ever heard of any one else seeing a bee, working on this gum. If our chemists hunt for it they may find what the bee deposits and mixes with the wax to cause that change.

J. A. RUFF.

Fort McKavett, Tex.

#### VERTICAL WIRES AND HALF-INCH-WIDE STARTERS.

Will you please state the objections to wiring frames perpendicularly by driving the right length of staples into top and bottom bars and imbedding half-inch strips of foundation on to the wires? The objections to wiring, unless you use full sheets of foundation (which I consider too expensive), are that the bees often fail to get the wire in the septum. This makes depressions in combs, with the wires in sight. Now, if this is an old idea will you please state the objection? I don't see why it would not be a big improvement over all other methods of securing straight combs.

G. E. PHILBROOK.

Lakeside, Cal.

[This plan of wiring is one that has been and is used to a considerable extent. It takes a lot of time to prepare a set of frames in this way, however. We don't quite understand whether your narrow strips of foundation are to run vertically or horizontally. The former would hardly give satisfaction.—Ed.]

# OUR HOMES

By A. I. Root

Gather up the fragments that remain, that nothing be lost.—  
JOHN 6:12.

In our Homes for October 1 I spoke about the importance of having a place for putting our money where it will be safe, and right at hand when needed. So many kind words have come for that Home paper that I am convinced of the great need of a postal savings bank; and I wish to say something in this present Home Paper about teaching the children the importance of saving their pennies instead of being continually looking out for some way to get rid of them as fast as they are earned. But before going into this I wish to discuss a little the way in which the average child is in the habit of investing his earnings.

In all of our towns and cities—yes, and even in our country stores—there are a good many attractive things to catch the children's nickels, and not only the nickels, but even the pennies. Now, so far as toys and playthings are concerned I have nothing in particular to say against them. Very likely some children, especially where there is but one child in the family, have too many playthings. This one child does not value them, because, before he has exhausted or got tired of any one plaything, he gets another. What I wish to refer to especially here is encouraging a child to waste his pennies (or worse than waste them), in buying things to eat when he is not hungry; and not only that, encouraging him to be constantly eating between meals. T. B. Terry's vigorous teachings are beginning to wake up a good many people. Hundreds if not thousands are finding a great improvement in their health by taking no food of any kind except at the regular mealtime. Confectioners are continually planning and studying up something new to catch the pennies. A while ago it was a ball of candy on the end of a stick. Every child had to have one. The manufacture of chewing-gum has become so great a business that quite a number of gum-makers are millionaires. If the gum contained nothing but what exudes from the spruce-trees, such as may be gathered in the pinery woods, it would not be particularly objectionable, perhaps. In fact, I have heard that chewing gum is an excellent means of cleaning the teeth. But when we find combined with the gum variously flavored candies to tempt the taste and appetite, it becomes, I am sure, a serious menace to health. Ice cream used to be 10 to 15 cents. It is now offered on the fairgrounds for a nickel in little cones; and in various cities it is hawked about the streets in penny packages. And not only ice-cream but various ices. In Havana, Cuba, I used to be quite fond of pineapple ices and banana ices for only a penny. I bought them for curiosity; but when I found they used spoiled pineapples and bananas to make penny ices I cut off that sort of investment. I think that some of the stuff made me sick before I inquired into it. Who can tell how much money is invested at ice-cream and soda fountains? I have not bought any myself for years, because I found out years ago that it did not agree with me. But I often stand near

these fountains on a hot day and look at the string of customers, old and young, that sometimes crowd around the vender, and often have to wait their turn. I often see boys and girls who work at our establishment, and who get only small pay, throwing away their nickels at these soda-fountains. Perhaps some of you may say that if we get rid of the saloons we ought to be satisfied without commencing to criticise the use of ice-cream, soda, and soft drinks in general. Some of you may also urge that physicians tell us growing children *need* sugar—that they have a natural craving for it. Granting all this, I am sure it will be better for the child as well as for the adult to get the sugar that is needed when he has his regular meals, and in a shape where it will not cost any thing near the amount of money that it does to buy it of the confectioners and druggists. I feel certain the long list of diseases that afflict our people at the present day are caused largely by using more sugar than we need, and especially taking it between meals, instead of at the regular appointed time. If I should suggest that *honey* is the most wholesome sweet that can be used you would think I am prejudiced because this is a bee-journal. You know, if you remember, that I am starting out to live a *hundred years*. I am not really sure I shall be able to write for GLEANINGS when I get to be 95, but I will try to do so if God lets me live so long. Well, one aid to our living to a good old age is to be by cutting off cane sugar. I have not eaten a spoonful of sugar in a year, and very little for several years. I have lost my taste for it. It makes my food unpleasant to have it sweetened. Mrs. Root makes two kinds of apple-sauce—one with a little sugar in it, and the other with none at all; and so with other kinds of fruit. The sugar does not agree with me. But the sugar in sweet fruits of any sort does not seem to disagree with me at all. Last night I must have eaten toward a dozen Paradise sweet apples. They were not very large, on account of the dry weather. Now, I suppose so many sweet apples just before going to bed would make most people sick—I think mainly because they are not in the habit of eating apples every day as I do. To tell the truth, I ate more than usual last evening just because I wanted to demonstrate how nicely sweet apples agree with my digestion. I felt better than usual, if any thing. There was no bad taste in my mouth in the morning, and I felt unusually well all the forenoon.

Now, dear friends, I have mentioned all this to try to convince you that it is not only wasting money but it is not conducive to health to use candies, ice-creams, etc., and drinks, especially between meals. I use lemonade quite freely, and I greatly enjoy it, but always without any sugar.

Now, with all this preface I wish to tell you something the W. C. T. U. has recently started in the way of encouraging children to save their money, and at the same time save their health. My sister, Mrs. E. J. Gray, of this place, has all her life been connected with the work of the W. C. T. U.; and in regard to this new phase of her work she writes the following:

## DOMESTIC DISORDERS.

A very prolific source of domestic trouble is the use of the family pocketbook. If the young wife has not had discipline and



training in the use of money she is likely to imagine that a reasonable weekly allowance will buy almost every thing; and before the week is half gone she will find her funds exhausted and be obliged to ask for more or go in debt, hoping that the next installment will help her out. After getting hopelessly in debt the husband loses confidence in her ability to use money, and so decides to take things in his own hands, doling out twenty-five or fifty cents to her when she asks for it. Or, on the other hand, if the man himself is improvident, using this joint means for cigars and other unnecessary things while the absolute necessities of the family are not provided for, a spirit of contention arises, and, not unrequently, it results in a case in the divorce court. The great lack in both of these cases is in early training in economy and thrift. The system of school savings banks is an ingenious method of instilling into a child's mind correct ideas of the value of money. The exercise of calling the roll Monday morning and receiving the pennies and nickels stimulates the whole school to learn ideas of thrift and economy. Habits of self-denial, and controlling the appetite, are thus formed that will go with children through life. Abundance of testimonials might be given where this work has been in successful operation. It should be introduced in all our public schools, particularly in the primary and intermediate departments.

So many devices are now used to induce children to spend their pennies that there is need of special training. The latest device we have noticed is a slot machine with a glass case containing salted peanuts. A penny in the slot will bring a small handful of peanuts. But a little white bead is mixed with the nuts; and if you are so fortunate as to get a bead with the nuts you can go inside and get five cents' worth of candy by producing the bead. A group of children were eagerly trying their fortune. Not only spendthrifts but gamblers were thus being trained.

For further information regarding the system of school savings banks, send to Mrs. S. L. Oberholser, 3509 North 22d St., Philadelphia, Pa., National and World's Superintendent of this department for the Woman's Christian Temperance Union, or to Mrs. E. J. Gray, Medina, State Superintendent for Ohio.

She has also handed me quite a string of testimonials from different public schools in regard to how the school savings bank is working. I have room for only one of them.

About two years ago I gave you quite an interesting story in these pages in regard to the way in which Mrs. Florence Richards, of Leipsic, O., made their town dry. It was the story of how she, a woman, almost alone, succeeded in getting rid of the saloons in her town. This good woman sends the following report in regard to their own school:

Mrs. Florence Richards, in writing of the system in the Leipsic (Ohio) public schools, says: "The system has worked a revolution in our schools, and our teachers say the scholars are more easily governed, more studious, and that the whole moral tone of the school has been heightened. Our homes have felt its salutary effect. We are having our house painted, and the painter said to me to-day: 'My boys are starting bank accounts, and it is wonderful, since they began, how little gum and candy we have had around the house. One of the boys said to me, as he started to school last Monday with his pennies for deposit, "Papa, if we can get along without our gum and candy, couldn't you get along without your tobacco?" and I said, "Yes, and I will." I have for the last ten days put my tobacco money in a box, and I have saved \$2.50 in that time.'"

In another column I have talked to the boys about saving their pennies to buy copper wire and batteries. I can well remember the time when the newsboy Edison began to startle the world with his wonderful experiments. He had had but very little money, and he needed it so badly for chemical apparatus that not a copper was wasted. I have been watching him ever since boyhood (for he lived not far from Medina) much as I have been watching the Wright Brothers in their experiments. At one time Edison happened to be in a strange city, out of a job. He went into a telegraph office and asked them if they could not give him some kind of work. He was plainly clothed, and this, together with his boyish manners, made some of the city clerks think he would be a good victim for a joke. They were just at that time in need of one of the best experts—a man who could handle twice the amount of business that any ordinary operator

could. They told Edison that he might sit down to the instrument and see what he could do with it. Then they piled the business on to him faster than any living man, as they supposed, could handle it. When our young scientist caught a glimpse of what was coming he put his hand in his vest pocket. Was it for a piece of tobacco, think you? Not any tobacco for young Edison. He pulled out a piece of *spruce gum*. I suppose he had gotten into the habit of chewing gum; but it was the genuine, right from the spruce-tree, and it was not sugar-coated or flavored. These fellows who put the job on him soon found the "joke" was on themselves instead. This green-looking boy could do the work of any two men that had ever been in their office. Electricity, and especially telegraphy, at that time was his great passion. He was the boy who saved his pennies; and not only that, he saved his precious moments. The world was so full of wonders, especially those that spread themselves out before his eager gaze, that he scarcely took time to sleep. Not an hour ago I picked up a paper that stated he is probably worth at the present time 25 millions of dollars. He has a home at Fort Myers, Fla., not far from our home at Bradentown. The paper further stated that he says he is now going to quit work—that is, he is going to quit working for any thing except "just for the fun of it." One of his latest schemes is to make houses of cement; and when he gets his plans perfected he expects to make an entire house, ready to live in, in about three days, and a better and more durable one than the world has yet seen.

Now, friends, if this new project started by the W. C. T. U. is going to encourage our school-children in starting a bank account instead of wasting their pennies and injuring their health, I think it may prove to be a God-send to the children of the new year now before us—1909.

By way of explanation I clip the following from one of the printed circulars:

A deposit list, copied from the teacher's roll-book, must be sent monthly to the bank in order that the accounts of the scholars may be individualized.

When a child has deposited \$1.00 he is given a bank-book, and becomes, through the school, a regular patron of the savings bank. When the deposit reaches \$2.00 or \$5.00 (as the bank may elect), it draws interest at 3 per cent or more.

The pupils are allowed to take their bank-books home for a day or two at the close of every month. The family interest aroused by the monthly examination of these bank accounts has in many instances, already noted, had telling effect, and older folks have learned lessons in thrift through their children.

Deposits will be received every Monday only, at the morning session, by the teachers of each school. The amount will be delivered to the principal, who will deposit it in the ——— Savings Bank in the name of each depositor.

One cent or upward can be received by the teacher. When a pupil has a deposit of \$1.00 or more, a bank-book will be given, free of charge, from the bank.

---

#### THE WRIGHT BROTHERS AND THEIR FLYING MACHINE UP TO DATE.

A few days ago a prospectus of the *Scientific American* was placed on my desk; and in enumerating the many things that journal has done for the world I was surprised to see the broad claim made that theirs was the *first* publication to announce that the Wright flying-machine was a success. This statement vexed me a little because of the fact that GLEANINGS IN BEE CULTURE announced it to the world a long while before the

*Scientific American* had taken any notice of this wonderful invention. In our issue for March 1, as far back as 1904, p. 241, I gave the first intimation of what was going on here in Ohio in the way of flying; and at frequent intervals during 1904 I visited the Wright Brothers at Dayton, Ohio, to witness their preliminary experiments. In our issue for January 1, 1905, I gave the result in detail, occupying three or four pages of GLEANINGS. Just as soon as an impression was off the press I mailed a copy of it to the *Scientific American*, and sent a letter accompanying it, thinking they would, of course, be glad to give it a wider publicity than we could give in our comparatively little journal. Well, what do you suppose happened? Not a peep, not a word of thanks for the trouble I had taken to give them full particulars of what I had been an eye-witness. Do you suggest that perhaps they did not get my letter with the proof-sheets? They *did* get it, and promptly asked me for *another* copy of our journal. Not a word of thanks then, and no mention of the Wright Brothers until more than a year afterward. If they have any thing to say in defense of their way of announcing inventions as they come up, we shall be glad to be corrected. In our issue for Jan. 15 I gave some further particulars with a cut of the gliding machine. At that stage of proceedings the Wright Brothers would not permit a photo of the complete apparatus to be given in print, for they had not fully secured their patents.

On page 48, Jan. 1, 1905, I gave my reasons for having kept back some news of this wonderful discovery as long as I did. Permit me to mention here that as soon as I had *permission* to give my write-up of the machine I sent the Wright Brothers a check for \$100; and, in fact, I would have been willing to send \$500 for the privilege of announcing to the world this wonderful invention. They thanked me for the check, but it was promptly returned, thus indicating that those two young men were not working altogether for the almighty dollar, but, rather, that they may benefit humanity.

While I am about it, permit me to say I am also a little surprised to see in the *Technical World* for November the following statement:

In June, 1906, the *Technical World Magazine* announced the success of the Wright Brothers, of Dayton, O., in the private tests of their wonderful aeroplane. The *Technical World Magazine* was the first publication to accord full credence to the Wright Brothers' claims, now so abundantly made good.

And the *Technical World* admits they did not give it to the world till 1906, while GLEANINGS goes back to March, 1904, with frequent mentions of what the boys accomplished step by step until the present.

At the time I gave my write-up there were several points in regard to the machine that I was not permitted to mention; but since these various features are now being fully discussed through the various periodicals I presume I am at liberty to tell what I know about it.

The first was an apparatus for putting a stronger curve on the tips of the wings when rounding a curve. Second, a device that would enable the machine to spring up into the air as a bird does in starting. When I first visited them they were obliged to run the machine along a single rail for, I think, 60 or 70 feet, in order to get up suf-

ficient speed to "climb into the air." This long track had to be moved so as to face the wind every time the wind changed, making considerable labor for each successive experiment. I suggested wheeling the machine up on to a platform over the little building where it was stored, so as to get up momentum by running down hill. After I left them I figured out in my mind that a derrick from which a weight could be dropped something like a pile-driver in order to get up a good momentum in starting would be a good plan. I was so full of this idea that I made a second trip in a short time, and was astonished as well as pleased to find they had got hold of the same thing and had it in practical operation. They had a lot of iron weights, about the size of a small grindstone, with a rope running up through the hole in the middle. By hitching on more or less iron weights they could get up any desired speed. I think they used fully as much as 1500 lbs. for the experiment at Dayton. This weight dropped 15 to 18 feet, and by a system of pulleys to magnify the *speed* and *distance*, the machine was given a sudden impetus that threw it up into the air a sufficient height and with sufficient speed to start the vehicle for flight. The device was a complete success from the start.\* I think the great wide world has had no intimation of this starting-device until the present summer. As I see pictures of it in the various magazines just now I suppose I am at liberty to describe it as I have done above.

I have from the start, perhaps, been more sanguine in regard to the value of their invention than even the Wright Brothers themselves. I may have forgotten; but if I am correct I think it took only little if any more gasoline to go a mile with the flying-machine than it does to run my automobile that distance; and this wonderful advance and achievement over all other methods of locomotion is that they are without any expense for tracks, macadam roads, or bridges. Right in sight of the bicycle-factory where these two men made their flying-machine is a bridge that cost, if I am correct, half a million of dollars. What will it be worth to the world to be able to go in *any* direction and any distance, *independently* of bridges? What do you suppose all the bridges in this world have cost, to make no mention of roadways and railway tracks and gradings?

In our last issue I said I hoped that Wilbur Wright would not be persuaded, *just now*, to attempt to cross the Channel or any other large body of water. I notice by a clipping from the *Cleveland Plain Dealer* of Oct. 19 that my good friend Orville backs me up in what I have said. See this:

ORVILLE WRIGHT SAYS HE WOULD ATTEMPT NO FLIGHT OVER ANY HIGH OBSTACLES.

The idea of flying over cities in a machine like the one with which he made his successful flights at Fort Meyer does not appeal to Orville Wright. He would not be willing to undertake a trip of that kind. The work he did at Fort Meyer was as hazardous as he is willing to perform.

The doctors attending the aviator are permitting him to see visitors, and the expression of opinion here set down is the first utterance from him by way of criticising the hopes of aerial navigation created by the work done in Paris and Washington.

He is afraid to trust any motor he has ever built or seen to the performance of such a task as has been suggested by the optimists who have expressed the opinion that Wilbur Wright should accept the challenge to cross the English Channel in his machine

\*It really reminds one of firing a man into the air out of a cannon when the trigger is pulled to let that big weight drop.



and continue across the country over cities and other obstacles requiring the aviator to go high into the air. The unreliability of the motor is what he fears.

Please notice in the above, he only says he will not just *now* "trust any motor he has ever built or seen;" or, in other words, at the present stage of proceedings it would be exceedingly unwise to fly over any but the most favorable territory on account of the possibility of accidents. Should any thing happen to the motor, we have found by repeated tests that a safe landing has usually been made over any farming territory; and a machine will alight easily and safely on any sort of farm crops without much risk of harm, with the stout runners I have described, gliding along on the surface of the ground without much risk of damage to the machine.

Of course, many more experiments will have to be made while the machine goes through an evolution something similar to that of the automobile.

I noticed this morning the statement made in the morning papers that Wilbur Wright said a flying-machine need not cost more than \$300 when a considerable number of them are made at a time with adequate machinery. I think *we* could easily make such a machine for less than \$100, aside from the cost of the engine, provided fifty or a hundred are built at a time. Whoever owns the patent, will, as a matter of course, need a pretty good profit in order to recompense him for what he has invested in the patent, and also for the investment in the necessary factory and equipment for building flying-machines.

#### SOMETHING ABOUT ELECTRICITY AND THE PROGRESS IT HAS MADE IN THE LAST FIFTY YEARS.

Just a few days ago my life was brightened by meeting an old schoolmate whom I had not seen for toward fifty years. When we were boys a dozen years old we were both greatly taken up with chemistry and electricity. A kind teacher gave me a book entitled "Conversations on Chemistry," and my schoolmate, Corwin Purdy, got out of some old garret a book called "Comstock's Chemistry;" and didn't we two boys have fun with our chemicals! We made gunpowder and fulminating powder, and finally hydrogen gas with which we filled soap bubbles, but they went up so rapidly that we hardly had a chance to touch a match to them. Finally we mixed common air with the gas so as to make an explosive, and this, also, made them go enough slower so we could catch them with a lighted match. When he made a new discovery he would run across the valley over to our house on the hill and tell me to "come quick" and see his new invention. In the same way I used to run for him to come over to our house. When we got on to electricity the matter was rather deep for us. The science was then in its infancy. I made a galvanic battery; but it did not work—that is, it did not produce an electric shock as I expected it would. He tried it on another plan, making a "galvanic pile" of sheets of zinc, copper, and cloth. The cloth was moistened with a weak acid; and, oh how delighted we were when it not only gave a faint shock, but produced sparks that were plainly visible after dark! When I went home I wound some copper wire around a little

rod of iron and hitched my wires to my battery; and, lo and behold! it *did* work. The iron picked up nails and let them drop; and after I had spent all of my hoarded pennies for wire I made a little telegraph apparatus.

When I was about fourteen, however, my father moved away from Mogadore, Summit Co., Ohio, and I lost sight of my friend Corwin. When I came to Medina I kept on with my electrical experiments, and soon had a revolving magnet exactly on the principle of the electric motors of to-day. I also succeeded in exploding hydrogen gas with electricity, thus rudely outlining the gas-engines that run automobiles at the present time. When I got my little electric motor so it would run a miniature home-made sawmill I started out "giving lectures" around at country schoolhouses; and my old friend W. P. Root, who is taking down these notes for me, remembers coming, with his father and older brothers, to one of my lectures at Sharon Center, Medina Co. I think that, in that boyish lecture, I predicted that electricity would some time supersede steam as a motive power for travel. I do not know but I told them that steam might be superseded in four or five years. My only mistake was in not multiplying my figures by ten, and saying *forty or fifty years*. Yes, it may take another fifty years yet, to fulfill fully my prediction. At that time of my life I was reading the *Scientific American*, and ransacking the world as well as I could for all the books on electricity. It was not very difficult, as there were only a few at that time.

Now, what prompted this paper was the sight of my old friend Purdy, transformed from a black-eyed, black-haired youngster to a white-haired and white-bearded man of almost seventy. Friend Purdy is still not only alive, but on the alert to know the new things that God is revealing to us through chemistry and electricity. Fifty years ago a galvanic battery, to do any sort of work, even in the way of experiments, cost four or five dollars, and it would run for only a few hours, and then the zinc plates had to be washed off and a new solution prepared. Now we have batteries of considerable strength that cost us only a few cents, and yet they will not only run for months but even for years. The electric clock in our bedroom has been running by batteries that are now over a year old, and I do not know how much longer they will last. After using a set of batteries in my automobile for several months until they were so far run down that they did not give good service, I found one of the exhausted cells would still ring a little doorbell very well; and just to test it I left the bell ringing in my automobile-house. I think that, after it had been running for two days, and was still making a faint jingle, somebody who slept upstairs in our house several rods away was found poking around in my automobile-house. When I came up to question the intruder he said he was trying to see if he could not stop that "everlasting clatter" that kept them awake nights; and I believe this run-down battery kept that little doorbell going for something like *three* whole days and nights.

By the way, in our last issue I spoke about battery-testers; and one of these cheap doorbells makes a very good battery-tester except that it is

almost too large to put in your vest pocket like the one we advertise. Fifty years ago a U-shaped electrical magnet covered with insulated copper wire cost about \$2.50; but now you can get a much neater one from dealers in electrical supplies for two dimes and a half; and a dry battery to run it costs another two dimes and a half or even less. Insulated copper wire, a few yards of which took all the pennies I could scrape to buy, is now kicked about under foot wherever electrical people are working. I always scold, however, to find it around our premises, because the sight of it reminds me of how badly I wanted just a little in my boyhood days, and yet could not afford to buy it. Even away down in Florida, after the men did the wiring on our cottage for the electric lighting, they threw the remnants out in the doorway. Of course, when they sent in their bill they charged me for this useless wire that they threw away; and every time I see one of these little dry batteries, that can now be had for fifteen or twenty cents, I am lost in wonder to think of the energy that is stored up in that little metallic can, and which will be given out at the bid of man to do important work, not only announcing that somebody wants to see or talk with you, but to carry your message miles away, or light the gas to push your automobile, when there is an emergency call that demands your presence somewhere, at the rate of almost a mile a minute. It is the developments of chemistry that have given us this wonderful power. The fables in the Arabian Nights that Corwin and I used to read and laugh over have come to pass; but *truth is greater* than fiction. The author of the Arabian Nights thought he was telling a tremendous yarn. But he did not make his yarn big enough. He did not know what was coming fifty years ahead.

And now I hope, dear friends, that there may be other boys (or may be *girls*) who are as crazy as Corwin and I were in olden times to know more about the wonders of chemistry and electricity. Such a boy is more likely to be found in a home where there is not much money; and I want to whisper to him to gather up those scraps of copper wire that men throw away, and then go around to the automobile-shops and ask for some of the discarded batteries. I wrote to the factory where these batteries are made, and asked them what they would give for the old cells. They said they were hardly worth the cost of transportation and pulling to pieces; so now they are kicked around under foot like the copper wire.

A few days ago one of our men had a wheelbarrowful, and was going to dump them into the pond. I stopped him, and found, by using a battery-tester, that some of them had recuperated so that they would do very good service. You let a dry battery rest a while and it will rest up, like an old man. The reason why they last so long in ringing doorbells is because they have a chance to rest up between the calls. After this boy has gotten a wheelbarrowful of dry batteries or cells, let him hitch them up with some of these bits of copper wire. If he manages it right, this series of batteries will not only ring bells and run machinery, but it will light electric globes and give a very good light if it is rested often enough. The amount of light or work you get from such a system of batteries will depend on

the number you have and how good they are. The batteries can be put down cellar or in any out-of-the-way place, and you can carry the wires wherever you wish. I can not begin to tell you, dear friends, how much this knowledge of electricity and chemistry has been worth to me through a busy life. I told you, a little time back (see page 1025, Aug. 15), about a man who had canvassed our town of Medina, and sold a carload of gasoline-cans. He said that gasoline put into those cans, and kept there for twenty minutes, would become non-explosive in consequence of the electrical action of the apparatus in the can. I was able to tell him at once, from my knowledge of electricity and chemistry, that he was undertaking to rob the people. The carload of cans came here to Medina; but before our people had handed over their honest money we exposed him in our county paper. If you have a boy who is interested in studying up these things, by all means encourage him; for God alone knows how much he may be benefited by this knowledge when he gets to be fifty or sixty years old.

---

## HEALTH NOTES

---

### ROLLED WHEAT—CAN IT BE MADE AT HOME?

I am very much interested in the use of wheat, in the raw state, for human food. I wish you would let me know, if possible, how the wheat grain can be made, by domestic means, like the rolled wheat which is sold at the groceries. Or are there any simple devices in the market for this preparation so that any one would be able to make the rolled wheat from the grain at home? Any advice regarding this matter will be welcome.

San Francisco, Cal., Oct. 8.

J. FINBURD.

Friend F., I have experimented somewhat in regard to this matter. Any of the various coffee or spice mills will crush and grind the wheat so it can be masticated almost as well as the rolled wheat, and perhaps quite as well. In regard to having the wheat perfectly clean, perhaps it had better be hand-picked, and it might be well to have it washed or scoured. Your wife can doubtless manage this. For a small amount, grind it in any kind of coffee-mill, but I would not try to grind it very fine. If some of the particles are too coarse to chew up readily, sift them out with a flour-sifter, such as women ordinarily use. Eat the dry ground wheat food with a spoon, using butter enough so that it will masticate nicely, and you will get the full benefit of the rolled wheat and save all the price of the middleman, the expense of fancy pasteboard packages, printing, etc. It does seem to me as if the average farmer ought to be able to make a short cut from the grain that grows in the home fields to the ground wheat placed right on his table. Of course, we want the very best quality of wheat; and I do believe that poor people with a little land could grow a little patch of wheat in their own garden; and when it is just right to use, say about the age of green corn, it is one of the most delicious and nourishing foods I ever tasted. It is some trouble to rub the grain out of the heads and blow off the chaff. If we had some cheap machine for doing the work I do think "green wheat," just out of the milk, might be as great a dish for the whole human family as "green corn," that is always in the market at the proper time, and afterward put up in cans.



## GRINDING WHEAT IN A COFFEE-MILL—MORE ABOUT IT.

A year or so ago I was out roaming through the woods picking up some chestnuts and walnuts—something I always delighted to do. Getting the smell of autumn leaves and crisp autumn air, gives life and vigor to a shop or store creature. Well, as I was strolling along, not noticing that I was quite near a barn, the owner seeing me came down to order me off the place; but seeming to recognize me he asked me up to the house. We sat on the veranda for some time, and talked. Somehow our conversation turned to this subject of wheat. The lady said she and her brother lived on this almost entirely—cracked wheat and cream. She insisted on my trying it, so she brought out a bowl of cracked wheat and cream. Talk about your patent breakfast foods! I never tasted anything like that for fine flavor. On inquiry, they said they bought a bag of wheat from their grocer, and just ground it, when they wanted to use it, in a common coffee-mill, pouring cold water on it and letting it stand on the stove, so as not to burn, for from three to four hours. If you want to eat a royal dish, just try it. Take your coffee-mill and get all the coffee out of it. Rinse it out with warm water, and have it dry, otherwise you will find it hard work to grind the wheat. Use nice clean wheat, cracked as we used to crack corn, and cook it a good long time. In fact, you can not cook it too much. Now serve it with nice cream and a nice baked sweet apple cut up with it. I don't believe there is any thing a weak stomach will digest any better; and as for cathartic pills, you will never need them. This seems to be the most natural food man can eat—simple to prepare, and satisfying to appetite.

I immediately ordered half a bushel of wheat and used up the lot. I find I don't care for a meat diet as much as I did in my younger days. E. VANDERWERKEN.

Stamford, Conn., Oct. 29.

The above little story illustrates some recent experience of my own. While in Detroit attending the convention I went into a dairy lunch to get my breakfast. When I found some of my shredded biscuit and a bowl of nice milk I felt glad; and when I saw a large luscious baked apple right beside them, with some nice fresh cream, I felt gladder still. I made an excellent breakfast, and what do you think the bill was? A nickel for the shredded biscuit and the little bowl of milk, and another nickel for the baked apple and cream. It was all the breakfast I wanted, and I held out until noon very nicely.

In regard to grinding wheat in a coffee-mill, a friend suggests that a large coffee-mill, such as may be found in most of the city groceries, will grind a pound of wheat in a very few minutes; and he says the pound of wheat ground in this way is not only equal to any of the wheat preparations put up by the millionaire manufacturers, with a lot of fancy pasteboard and pretty pictures on it, but it is really fresher and more wholesome. If you use the wheat grown on your own farm (or your neighbor's farm) it costs you less than two cents a pound. If you patronize the poor millionaire because you are sorry for him, it will cost you fifteen cents a pound, including a pasteboard package, which is usually weighed up at the same price as wheat.

In regard to cooking the wheat, I prefer it Terry's fashion—uncooked; but if you must have it cooked a long while, as our friend states, the fireless cooker will do it to perfection. Put it into the cooker boiling hot, just as you go to bed, and the next morning it will be hot enough for breakfast.

Just after the above was dictated, *Good Health* for November was put into my hands; and on the front cover we have a very nice picture of Wu Ting Fang sitting in a crowd of men and women in the Battle Creek sanitarium. It is an excellent picture; and as Mr. Wu sits there in the foreground he is spreading out his hands and saying, "I am going to live 200 years." You see he has thrown friend Terry and myself into

the background. Is it not funny to see how "great minds (?) run in parallel channels?" Well, to get right down to it, where can the whole wide world show us a more praiseworthy undertaking? You can all join, and be right in the crowd "as long as you live," especially if you manage not only to *live* but to keep *well*. It makes me think of the old-fashioned spelling-school, and the way in which they let the best spellers go to the head of the class. The man or woman who demonstrates the truthfulness of her theories by living *long* and keeping the full use of her powers, both mental and physical, stands at the head of the class. It is refreshing to note that Mr. Wu so fully agrees with Terry and your humble servant—see page 1145, Sept. 15; and one of the grand and glorious things about this battle for good health and long life is that it is right in the line of "overcoming." The conditions of success depend upon pure, clean, temperate lives. "To him that overcometh will I grant to sit with me in my throne, even as I also overcame, and am set down with my Father in his throne."

A kind word has just come from an old friend. I think it will be a good closing for this health talk.

*Friend Root*.—If you are going to increase for the coming forty years in catholicity as you have in the past decade your usefulness will be very great; and that we may keep tab on you, continue your department in GLEANINGS. R. A. BURNETT.

Chicago, Nov. 4.

By the way, I think it would pay every reader of GLEANINGS to send for the November number, at least, of *Good Health*. The account of Wu Ting Fang's visit to the sanitarium is alone worth the price of the journal for a year.

Since the above was in print I have ground some wheat in a coffee-mill, and compared it with the Pettijohn rolled wheat. There is no trouble in mastication; but the wheat that we find here in the market is evidently of poor quality compared with the Pettijohn. In our groceries the latter sells at 13 cts. a package; and the clean wheat, without the pasteboard box, weighed 1 lb. 6 oz.; so the cost here is only about 8 cts. per lb. for the finest quality of rolled wheat ready to be eaten.\* but it does seem too bad to pay even 8 cts. per lb. for wheat that is worth at home less than 2 cts. A good many people will doubtless find it less trouble to get their supplies at the nearest grocery than to prepare them at home. And even at 8 cts. per lb. the expense of good wholesome food is ever so much less than paying 50, 40, or even 25 cts. for a meal at a restaurant or boardinghouse. This same number of *Good Health* has quite an article on the importance of a certain amount, at least, of raw or uncooked food right along with your cooked meals—if you *must* have them cooked.

---

We clip the following from the *Budget*, of Sugar Creek, Ohio:

## SALOONS OUT; POLICE FOLLOW.

Goldengate, the third largest town in Wayne Co., Ill., has found it does not need a police force since the saloons are closed. On April 7, Goldengate voted out the saloons; and since then the office of marshal has been abolished as being a useless expenditure; and the town is now entirely without police protection.

---

\*Shredded-wheat biscuit costs us 13 cts. per lb., or 2 lbs. for 25 cts. Each package contains a dozen biscuits, so they cost about a cent apiece. This, I think, is partially cooked, and so far I give it the preference over any other cereal.

# YOUR HIDES AND OUR HIDES

## MADE INTO WARMTH FOR THE WHOLE FAMILY

We are the largest firm in the country that tans, manufacturers and sells all kinds of fur goods direct to the consumer. Our beautiful catalogue tells you how to get the best fur coats, robes, neckpieces, ladies' jackets, children's coats, fur-lined coats, etc., made to order, saving for yourself the jobbers' and retailers' profit. Our stock of hides and skins is complete. We furnish the material and manufacture to measure for automobilists, farmers, physicians, etc., and their families, all varieties of fur goods; or, we will tan, any kind of skins, wild and domestic, you send and make them into furs for any member of your family.

Don't sell your hides or skins. It's poor economy. Send them to us and have them made into coats, robes, mittens, jackets, ladies' furs, etc., and keep your family warm this winter. Any color horse or cow hide looks well. Our process makes them soft and pliable, also mothproof and waterproof.

No Matter Where You Live We Will Pay the Freight On  
All Hides Sent to Us to Be Made Into Coats or Robes

**FREE:**—With each cow or horse hide coat or robe made from hide furnished by you, we make free for you a pair of knit-lined mittens with horse-hide palms. Hear what Mr. Chestnut, Straw, Mont., says: I received the overcoat made from the hide I sent you. It is surely a dandy and those mittens made to match overcoat are all right. I am highly pleased with the goods.

You'll feel the same when you deal with us once. Send for new, handsome catalogue and learn all about our money-saving methods. Write today.

**National Fur and Tanning Company,**  
219 Hooker Ave., Three Rivers, Mich.



## PLEASURE AND PROFIT

**MAKE MORE MONEY**—Read this 128 to 200 page Magazine; published monthly and treats on the following subjects: Steel Traps, Where and How to Set; Baits and Scents; The Proper Season to Trap; How to Skin, Stretch, and Handle Furs; New Ways to Capture Mink, Fox, Wolf, Marten, Beaver, Otter, and Other shy Animals; Raising Fur-bearing Animals; Growing Ginseng and Golden-Seal; Training Night-hunting Dogs; Leading Fur Markets; London Raw Fur Sales; Fox Hunting and Hounds; Coon Hunting; Letters from Old Hunters and Trappers, etc.

The Magazine contains from 128 to 200 pages each month, averaging about 160, or 2000 pages a year. About 700 illustrations used each year. Subscription price, \$1.00 a year. Single copy, 10 cents.

**STEEL TRAPS.**—All about the various makes and how to use them. Also chapters on care of pelts, etc. Contains 333 pages, 130 illustrations. Price 60 cents.

**MINK TRAPPING.**—Has all the methods of experienced trappers. Contains 183 pages, 53 illustrations. Price 60 cents.

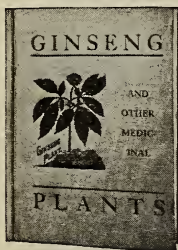
**FOX TRAPPING.**—Devoted to ways of outwitting this wary animal. Contains 185 pages, 62 illustrations. Price 60 cents.

**DEADFALLS AND SNARES.**—How to build and set traps of the material the forest supplies. Contains 232 pages, 84 illustrations. 60c.

**CANADIAN WILDS.**—Tells about the Hudson Bay Company, Northern Indians, their ways of Hunting, Trapping, etc. 277 pages. 60c.

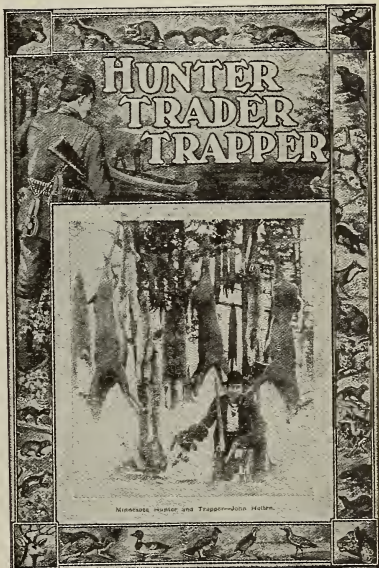
**LAND CRUISING AND PROSPECTING.**—Valuable book for Homesteaders, Hunters, Trappers, Guides, etc. Contains 175 pp., 36 illustrations. 60c.

**BEE HUNTING.**—There are wild bees in most forests. This book tells how to line bees to trees, etc. 80 pp. 25 cents.



A book of valuable information for growers of Ginseng and Golden-Seal, as well as collectors of medicinal roots, barks, leaves, etc. Tells how to grow and where found, medicinal uses, value, etc. Contains 317 pages, 5 x 7 inches, and 130 illustrations.

Price, cloth, \$1



**A. U. HARDING PUBLISHING COMPANY, COLUMBUS, O.**

These Books are all Practical and Will Prove a Good Investment. Ten cents may be deducted from each book when two or more are ordered. 32-page booklet, describing magazines and books, free.

# BOOKS of All Kinds on CREDIT

You can have all the books you need by our plan. Write for that beautifully illustrated and descriptive book. "A Book Store in your home." It is free. Write today. We guarantee quality and value. Our prices the lowest. Write for catalog. It is free. The largest mail order Book house in the world. 48 years in business.

Dept GB23 THE FRANKLIN-TURNER CO., 65-71 Ivy St., Atlanta, Ga.



# Grand FREE Millwork Catalog

Saves Users 50 Per Cent on Windows, Doors and Building Material

## Doors 77c—Windows 60c

**5,000 Bargains—Quality, Safe Delivery and Satisfaction Guaranteed Anywhere**

Don't think of doing any repair work or building, whether you are a Home Owner,



**4-Lt. Window 60c**  
With Glass,  
Dealer's Price, \$1.25

Carpenter, Contractor or Builder, until you have sent a postal card for our Free Millwork Catalog. It's an authority on millwork styles, and quotes and illustrates over 5,000 articles in sash, doors, flooring, stairs, roofing, building paper, hot bed sash, windows, screen doors, etc. We sell all our millwork products of the Largest Plant in America only direct to you, and you save HALF, whether you order \$5 worth or \$10,000 worth. We ship anywhere in the United States and guarantee to make you a clean saving, freight included, of from 25 to 50 per cent on anything you order.

You can get an idea by the few illustrations and prices in this small space of what a saving you can make by buying from our catalog.

Our work is all guaranteed strictly up to the official grades adopted by the Sash, Door & Blind Manufacturers' Association of the Northwest, and if

**Hot Bed Sash \$1.69**  
With Glass

**Barn Sash, 4-lt. 39c**

**Window Frames \$1.40**

**Porch Columns \$1.85**

**Stair Newels \$2.83**

not exactly as represented in every particular, you can ship your order back at our expense.

**Remember, you save 50 per cent, freight included, on your Local Dealer's Prices.**

We carry a large stock and can therefore ship promptly. If you are planning to do any building whatever, or to make any improvements, write us fully, stating what your needs are.

### Roofing at Cut Prices!

We ship to every state daily.

5-year guaranteed Flint-coated Roofing, per sq. **\$1.41**

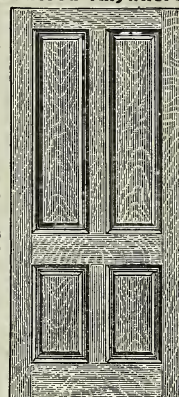
8-year guaranteed Flint-coated Roofing, per sq. **1.96**

10-year guaranteed Flint-coated Roofing, per sq. **2.29**

2-V Crimped Steel Roofing, per sheet—8 feet **27c**

Corrugated Steel Roofing, per sheet—6 feet **30c**

Big catalog **FREE.**



**High Grade Door 77c**  
Regular Price \$2.00

**GORDON-VAN TINE CO..**

**1221 Case Street,**

**DAVENPORT, IOWA**

### AERMOTOR GASOLINE PUMP

Engine complete ready to attach, as shown, to "any old pump," in 30 minutes



PRICE

**\$37 1/2**

THOUSANDS IN USE

**AERMOTOR CO.**  
CHICAGO



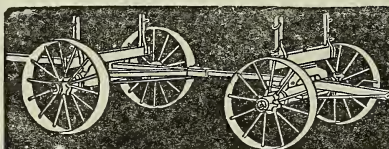
Makes and burns its own gas and produces a pure white, steady, safe, 100 candle power light. No wick, smoke, dirt, grease or odor.

**THE BEST LIGHT**

Lighted instantly. Over 200 styles. Agents wanted. Write for catalog

**THE BEST LIGHT CO.**

306 E. 5th St., Canton, O.



### WHAT DO YOU SAY?

Several hundred thousand farmers say that the best investment they ever made was when they bought an

### Electric Handy Wagon

Low wheels, wide tires; easy work, light draft. We'll sell you a set of the best steel wheels made for your old wagon. Spoke united with hub, guaranteed not to break nor loose. Send for our catalogue and save money.

**ELECTRIC WHEEL CO., Box 95, Quincy, Ill.**



### Mend Your Own HARNESS

Put the money you would pay the repair man in your own pocket and use Myers

Lock Stitch Awl instead. It stitches like a sewing machine and will mend harness, saddles, fur coats, robes, shoes.

**SEE THAT LOOP**

gloves, canvas, carpets, etc. Something you and your neighbors need every day and costs only \$1.00 prepaid. You can secure the agency in your locality and make money. One agent sold 100 in 4 days. Write for booklet

**C. A. MYERS CO.**

6537 Woodlawn Ave., Chicago, Ill.



# 17 Cents a Day Buys an Oliver

This amazing offer—the New Model Oliver Typewriter No. 5 at 17 cents a day—is open to everybody, everywhere.

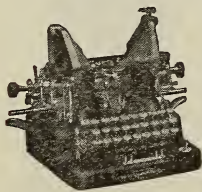
It's our new and immensely popular plan of selling Oliver Typewriters on little easy payments. The abandonment of long-hand in favor of clean, legible, beautiful typewriting is the next great step in human progress.

Already—in all lines of business and in all professions the use of pen and ink is largely restricted to the writing of signatures.

Business Colleges and High Schools, watchful of the trend of public sentiment, are training a vast army of young people in the use of Oliver Typewriters.

The prompt and generous response of the Oliver Typewriter Company to the world-wide demand for universal typewriting, gives tremendous impetus to the movement.

The Oliver, with the largest sale of any typewriter in existence, was the logical machine to take the initiative in bringing about the universal use of typewriters. It always leads!



## SAVE YOUR PENNIES AND OWN

The  
**OLIVER**  
Typewriter

THE STANDARD VISIBLE WRITER

This "17-Cents-a-Day" selling plan makes the Oliver as easy to own as to rent. It places the machine within easy reach of every home—every individual. A man's "cigar money"—a woman's "pin money"—will buy it.

Clerks on small salaries can now afford to own Olivers. By utilizing spare moments for practice they may fit themselves for more important positions.

School boys and school girls can buy Olivers by saving their pennies.

You can buy an Oliver on this plan at the regular catalog price—\$100. A small first payment brings the machine. Then you save 17 cents a day and pay monthly.

And the possession of an Oliver Typewriter enables you to earn money to finish paying for the machine.

### Advantages

The Oliver is the most highly perfected typewriter on the market—hence its 100 per cent efficiency.

Among its scores of conveniences are:

- the Balance Shift
- the Ruling Device
- the Double Release
- the Locomotive Base
- the Automatic Spacer
- the Automatic Tabulator
- the Disappearing Indicator
- the Adjustable Paper Flangers
- the Scientific Condensed Keyboard

Can you spend 17 Cents a day to better advantage than in the purchase of this wonderful machine?

Write for Special Easy-payment Proposition or see the nearest Oliver Agent.

**The Oliver Typewriter Co.**  
103 Dearborn St. Chicago.

### Service Possibilities

The Oliver Typewriter turns out more work—of better quality and greater variety—than any other writing machine. Simplicity, strength, ease of operation and visibility are the corner stones of its towering supremacy in

- Correspondence
- Card Index Work
- Tabulated Reports
- Follow-up Systems
- Manifolding Service
- Addressing Envelopes
- Working on Ruled Forms
- Cutting Mimeograph Stencils

## Why Rent?

when there are 500 Government irrigated homesteads at Powell, in the Big Horn Basin, Wyoming and Hunley in the Yellowstone Valley, Montana, with water now running in the canals, ready to raise crop next year.

**WATER PAYMENTS EASY AS RENT,** one-tenth cash, one-tenth in two years and one-tenth each year thereafter until full amount is paid. **NO INTEREST.** Settlers allowed to work out payments on extensions of Government Canal at good wages. A never failing supply of water for irrigation.

**YIELDS:** 50 bu. wheat, 90 bu. oats, 70 bu. barley, 3 cuttings alfalfa, 250 to 500 bu. of potatoes, 20 to 25 tons of sugar beets. Good fruit land.

**Let Us Help You Locate.** Go with me on one of our personally conducted excursions, first and third Tuesdays of each month, and I will help you free of charge to find a satisfactory homestead, or purchase deeded or Carey Act land. I will not advise you to settle where the elevation is too high, or the water supply defective.

**Write Today** for our new folder with large map, also folders issued by the Government telling about the homestead lands.

**Burlington  
Route**

**D. Clem Deaver, Gen. Agt.,  
Landseekers' Information Bureau,  
41 "Q" Building  
Omaha, Neb.**

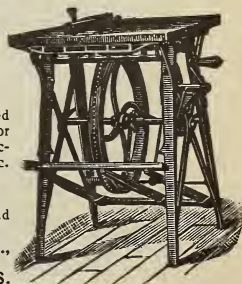
5018

## BARNES' Hand and Foot Power MACHINERY

This cut represents our combined circular saw, which is made for bee-keepers' use in the construction of their hives, sections, etc.

### Machines on Trial

Send for illustrated catalog and prices. Address  
**W. F. & JNO BARNES CO.,**  
545 Ruby St.,  
ROCKFORD, ILLINOIS.



## MICHIGAN LAND

for fruit, stock, and diversified farming. Write S. S. Thorpe, 10 McMullen Bldg., Cadillac, Mich.



**1000 FERRETS. Some trained.**

Price list and booklet mailed free.

**N. A. KNAPP, ROCHESTER, OHIO**



# Don't Buy a Stove or Range Until You First See How Much You Save By Getting

## "A Kalamazoo Direct to You"

TRADE MARK REGISTERED

**YOU** want to make every cent you spend this year, count for quality and economy.

If you need a stove or range, don't buy until you get our factory prices. I promise you that I will save you \$5, \$6 or \$10 on our smallest stoves, and as high as \$18, \$20 and even \$30 on our largest. And I promise you that you cannot get anywhere at any price, a better stove or range than the Kalamazoo.

Just let me quote you prices. Take our catalogue and compare the Kalamazoo quality and prices, with the best line of stoves and ranges you can find sold at retail. That will tell the story. You can see for yourself. You want to save money and you want to get high quality. Why not investigate our plan, then? Why not let me show you the difference between manufacturers' prices and retail prices on stoves or ranges?

We sell to you, direct from the factory, at actual factory prices.

### On 360 Days Approval Test—We Pay the Freight

I promise, in black and white, to refund your money—every cent of it—if you do not find your purchase in every way exactly as represented.

Remember, every Kalamazoo is of the highest possible grade, made of the best materials and in the best manner. You deal directly with the manufacturers—a company that has a larger number of individual customers than any other stove company in existence.

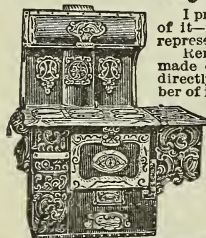
We have sold thousands of stoves and ranges to readers of this journal, and no doubt can refer you to near neighbors who have saved money by buying a Kalamazoo. Many customers write that they have saved enough on a single Kalamazoo to pay for a whole season's fuel. You can save enough to buy a new suit, a new dress, an article of furniture, or perhaps to pay your taxes. Is it not to your interest to get our prices?

### Send Postal for Catalogue No. 416

describing more than 300 sizes and styles of Coal and Wood Ranges, Coal and Wood Heaters, Hotel Ranges, Base Burners, Laundry Stoves, Etc.

I know that if you get our prices—and see our quality you will not even think of buying any other make. Let me show you how much you can save.

**William Thompson, Vice-Pres. & Gen. Mgr.**  
**KALAMAZOO STOVE CO., Mfrs. Kalamazoo, Mich.**



All Kalamazoo cook stoves and ranges have patent thermometers which make baking and roasting easy.

## SPRAY PUMPS

The Pump That Pumps

SPRAY PUMPS

## MYERS

Glass Valve

## HAY TOOLS

Double-acting, Lift, Tank and Spray

Store Ladders, Etc.

of all kinds. Write for Circulars and Prices.

### Myers Stayon Flexible Door Hangers

with steel roller bearings, easy to push and to pull, cannot be thrown off the track—hence its name—"Stayon." Write for descriptive circular and prices. Exclusive agency given to right party who will buy in quantity.

**F. E. MYERS & BRO.**  
Ashland, Ohio.

### The Rochester Radiator will

**SAVE HALF YOUR FUEL** or give you double the amount of heat from the same fuel, if you will give it a trial, or we will refund the money paid for it. Write for Booklet on heating homes.

**ROCHESTER RADIATOR CO.**  
50 Furnace St., Rochester, N.Y.

Prices from \$2 to \$12

For hard or Soft Coal wood or gas

Fits any Stove or Furnace

### FENCE Strongest Made

Made of High Carbon Double Strength Coiled Wire. Heavily Galvanized to prevent rust. Have no agents. Sell at factory prices on 30 days' free trial. We pay all freight. 37 heights of farm and poultry fence. Catalog Free.

**COILED SPRING FENCE CO.**  
Box 101 Winchester, Indiana.

### 48 IN. FENCE a rod 29c

Best high carbon coiled steel wire. Easy to stretch over hills and hollows. **FREE** Catalog—fences, tools. Buy from factory at wholesale prices. Write today to Box 88

**MASON FENCE CO., LEESBURG, O.**

### 15 Cents a Rod

For a 22-inch Hog Fence; 16 for 26-inch; 19 for 31-inch; 22 1-2 for 34-inch; 27 for a 47-inch Farm Fence. 50-inch Poultry Fence 37c. Lowest prices ever made. Sold on 30 days trial. Catalog free. Write for it today.

**KITSELMAN BROS.**  
Box 21, MUNCIE, IND.

# CALIFORNIA CHRISTMAS BOX

Something Worth While  
Direct to You

or to any point in the country on your order, with holly berry label with Merry Christmas and your name.

**THIS BOX COSTS \$7.50**, and contains **DRIED FRUIT**, 25 lbs., fine quality, put up in 2-lb. cartons—Figs, Prunes, Peaches, Apricots, Pears, Muscatel, also Seedless and Seeded Raisins, Plums, Grapes. **CANNED FRUIT**, 12 cans, Peaches, Pears, Plums, Grapes, Apricots, put up in heavy cane syrup. **NUTS**, 8 lbs., Almonds and Walnuts. **ORANGE-SAGE HONEY**, 1-2 gal. All guaranteed first-class and this year's crop.

## WE PAY THE FREIGHT

*Our Reference:*  
First National Bank, Colton, Cal.

### Two of Our Regular Assortments

50-lbs. Dried Fruit, 6 kinds, packed in 2-lb. cartons, \$6 box.  
Canned Fruit Assortment—Fancy Fruit, put up in heavy cane syrup, 24 cans, 5 kinds, \$4.75.

Combination—50 lbs. Dried Fruit, 24 cans Canned Fruit all for \$10.50.

## WE PAY THE FREIGHT

Write for price list and full particulars of all assortments; also three Colored Souvenir Post-cards Free.

**CALIFORNIA FRUIT PRODUCTS COMPANY**  
Avenue I COLTON, CAL.



## This is The New Hired Man

### A Telephone On The Farm

will do more work and do it faster and better and cheaper than the best farm hand and takes up considerable less room in the farm house.

When there's sudden, serious illness in the family—when quick action of any sort is demanded—you can't estimate its value in dollars.

You pay for its services only when you use it—about one cent a call is the cost—and every time you use it, it saves you time, money, labor.

### Stromberg-Carlson Telephone

equipments can be secured by you and your neighbor at most reasonable prices and our directions are so simple that you can put up the line yourselves, without any trouble.

### Ten Men Can Organize a Successful Independent System

Write us today for our book, "How The Telephone Helps The Farmer," 21st edition, and other literature. We send it free.

### Stromberg-Carlson Telephone Manufacturing Company

Rochester, N. Y.

Chicago, Ill. Kansas City, Mo.  
Address Nearest Office

## You Can Get More Eggs

And Save Feed Bills.

**GREEN BONE** fed raw gives fowls the food they need to take the place of bugs and worms. It has more than four times the egg making

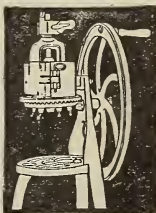
value of grain: is rich in protein and other elements that make more eggs, fertile eggs, livelier chicks, earlier broilers, heavier fowls. Cut it with

### MANN'S Latest Model Bone Cutter

Turns easily; cuts rapidly; never clogs; automatically adjusts itself to any one's strength. Cuts all bone with all adhering meat and gristle.

**Ten Days Free Trial** We ask no money until you try the machine. If not satisfied, return at our expense. Write for catalogue.

F. W. MANN CO., Box 37, Millford, Mass.





**THE HUMPHREY**

**GREEN BONE and VEGETABLE CUTTER**

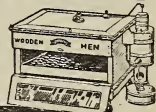
will save half your feed bills and double egg yield. Guaranteed to cut more bone, in less time, with less labor, than any other. Send for Special Trial Offer and handsome catalogue.

**HUMPHREY,**  
Mine St. Factory, Joliet, Ills.

## Hatch Chickens by Steam

Stahl "Wooden Hen" and "Excelsior" Incubators assure big hatches. Well-built, reliable, practical—thousands in use. Catalogue free.

GEO. H. STAHL, Box 36A QUINCY, ILL.





# Hammer Free!

With Every Order of Supplies of \$5.00 or Over.



This is the handiest tool for nailing up hives, frames, and all parts, or for opening up hives. Made of steel, nickeled.

Three per cent discount off all prices in catalog.

## FULL LINE OF ROOT'S GOODS

NO CHARGE FOR DRAYAGE.

**John N. Prothero**  
Dubois, .. Pennsylvania

# ORDER EARLY

**Secure  
the  
Benefit  
of  
Discount  
on  
Fall Orders**

For November, 5 per cent discount.  
For December, 4 per cent discount.

**THE A. I. ROOT CO.**  
SYRACUSE, . . NEW YORK

# Rock-bottom Prices

.. ON ..

## Root Quality Bee-Supplies

Together with the very best shipping facilities over some thirty odd railroads and steamboats is what we can offer bee-keepers north, east, south, or west of St. Louis. Simply send us a list of goods wanted, either for immediate or future delivery, and we will quote you our best special cash price, either delivered at your station or on board cars at St. Louis.

Every day delayed, now counts.

**BLANKE & HAUKE SUPPLY CO.**

1009-11-13 LUCAS AVE.

ST. LOUIS, MO.

**European Bee-keepers!**

# Save Time and Expense

by sending direct all your orders and correspondence to our exclusive agent for the European continent and its colonies. . .

~~~~~  
**EMILE BONDONNEAU**  
142 FAUBOURG - ST. DENIS, PARIS  
~~~~~

**Prompt Service  
and Satisfaction  
Guaranteed. . . .**

~~~~~  
**The A. I. Root Company**

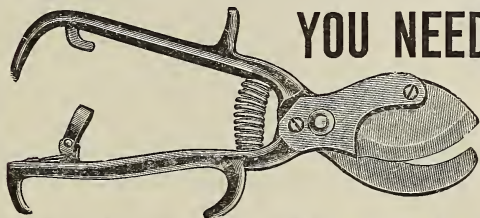
## The Southern Fruit-Grower is the Best Paper that I Have Ever Read.

—L. H. KESSLER, Agawam, Mass.

I have been a regular subscriber to The Southern Fruit-Grower, almost from its beginning, and enjoy it very much.—J. B. WILLIS, Spartanburg, S. C.

I am nearly 80 years old, still I do not feel like being without The Southern Fruit-Grower.—A. BORNSTEIN, Cedar Hill, Tenn.

THESE are only a few of thousands of subscribers to The Southern Fruit-Grower who tell us what they think of it, after reading it for a number of years. If you have a garden, orchard, or even a few trees, you will find it of inestimable value to you. It will save you many dollars each year. We want your subscription, so that you may join with the others in testifying to the value of our paper. It is published monthly, 24 to 32 pages. Clean and crisp. 50 cents per annum; three years for \$1.00. We want three-year subscriptions.



## YOU NEED A GOOD PRUNING-SHEAR.

Fill out the coupon below and send it to us, and we will send you a copy of The Southern Fruit-Grower and a pair of these steel pruning-shears on approval. If you think it a splendid offer, keep the

shears and send us \$1.00, otherwise return the shears to us. (Sample copy free.)

### THE SOUTHERN FRUIT-GROWER, CHATTANOOGA, TENN.

*The Southern Fruit-Grower, Chattanooga, Tenn.*

Send me a pair of pruning-shears and a copy of The Southern Fruit-Grower on approval. I will send you \$1.00 for the shears and three years' subscription to The Southern Fruit-Grower, otherwise I will return the shears within ten days.

Name \_\_\_\_\_

P. O. \_\_\_\_\_

Date \_\_\_\_\_  
GBC

State \_\_\_\_\_

## A Year's Work in an Out-apiary

or, How to Control Swarming with Any Hive, Either for the Production of Comb or Extracted Honey. By G. M. DOOLITTLE.

Price 50 cts. postpaid.

This is the long-promised volume, just issued from the press of The A. I. Root Company. It contains 60 pages the size of this journal, describing Doolittle's system of comb-honey production, and how he managed to control swarming in particular. He has been writing on the subject of bees for over forty years. During all of that time he has made his bees pay, and pay handsomely. Just how he has been doing this is fully explained in this work.

The regular price of this work is 50 cents; but to introduce it among our readers we offer it in combination with one year's subscription to GLEANINGS for the regular price of the journal; namely, \$1.00, providing all arrearages are paid, if any; and \$1.00 for one year in advance. Those whose subscriptions are about to expire should renew at once, for the condition of our offer is that the subscription money, \$1.00, must be received before the expiration of your subscription. As there have been only a limited number of copies of the book printed, if you desire to secure one you had better renew at once, even if your subscription has some time to run, so as to be sure to get one.

GLEANINGS IN BEE CULTURE, MEDINA, O.



## BEAUTIFUL Post Cards Free

Here are 12 as handsome Post Cards as you have ever seen. The flower cards are all embossed—raised flowers. There are six of these. The other six are scenes like the one above—all beautiful and grand—nothing cheap or small about any of them. These twelve cards will be sent to anyone FREE. Just send a dime—stamps or coin—for a three months' trial subscription to Farm and Stock, the One Best Farm Paper. This paper will delight you. It is the best on following subjects: Corn Growing, Stock Raising, Farm Veterinary, Farm Women, Dairying, Poultry Raising, Fruit and Bees, etc. Write at once.

FARM & STOCK

P. O. Box 404

St. Joseph, Mo.



## FASHION BOOK FREE!

I want to send you my handsome new book showing hundreds of latest styles with illustrated lessons on cutting and dressmaking. I will agree to sell you all the patterns you want for five cts. each. They are the same patterns you have always paid 10c & 15c for at the stores, made by the same people, and correct in every detail.

### HOW I DO IT.

I publish the **FARMER'S CALL**, a weekly paper for every member of the family. An especially interesting feature each week are the children's letters; and the Woman's Department is unusually strong and instructive. Among the special features for Women folks, is its fashions in which I show the 5c patterns. Let me help you to save money.

### MY SPECIAL OFFER

Send me 25c and I will send you the **FARMER'S CALL** every week (over 1000 pages) for one year and will send my big Fashion Book to you free. I also agree to sell you any pattern you want thereafter for 5c. I can sell them for 5 cts because I buy them by the thousand and don't make any profit. I don't want the profit. I want your subscription to the **FARMER'S CALL**. You will save many times the cost of my offer in a year. **WRITE TO-DAY!**  
**JOHN M. STAHL, Dept. G, QUINCY, ILL**



## Flower Language

### Post Cards

A series of 12 beautiful cards

## FREE

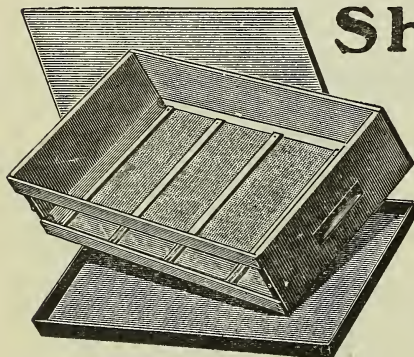
### TO YOU

Do you know the language the flowers talk? Here is a wonderful series of twelve beautiful Flower Language Post Cards that I will send to you absolutely free. Only send me ten cents for a six month's trial subscription to my big 24-page journal, **THE GLEANER**, which is of interest to every member of the family, and I will send you all twelve of these beautiful cards absolutely free as a present. Each card portrays a different cluster of life colored flowers arranged in artistic designs reproduced from paintings by J. Leslie Melville. Each card has a beautiful poem written by O. Preston Wynne, revealing the language of the flowers in verse. Think of it.

### 12 Beautiful Post Cards

and **THE GLEANER** for six months on trial for only 10 cents and **REMEMBER** that if you will write me at once I have a *surprise* for you. Don't forget to ask about it. Don't lay this down and say "I'll send for these tomorrow," **WRITE RIGHT NOW.**

**G. H. SLOCUM, Publisher**  
**904 Majestic Bldg. Detroit, Mich.**



## Shipping-cases

for any number or size of sections desired. These cases are made of fine white basswood, and the workmanship is first class. Owing to the shortage in the honey crop last year we have a good stock on hand and can make immediate shipment.

Twelve-inch case, with follower, to hold 24; or eight-inch case, with follower, to hold twelve beeway sections, shipped when no size is mentioned. All cases single tier unless otherwise ordered.

### Honey-packages in Tin.

Standard packages for storing and shipping extracted honey. Less chance for leakage or taint from wood; being square they economize space. Five-gallon cans boxed two or one in a box; gallon cans 10, ½-gallon cans 12 to box. Five, one, or ½ gallon cans not boxed if desired. Prices on application for any quantity.

Place your order now; prices and prompt shipment guaranteed.

**MINNESOTA BEE SUPPLY COMPANY**  
**123 Nicollet Island, Minneapolis, Minn.**

# A BIG RENEWAL OFFER!

TWO BEE-PAPERS FOR ABOUT THE PRICE OF ONE.

**American Bee Journal, 1 yr., \$0.75**

**Gleanings in Bee Culture, 1 yr., 1.00**

**\$1.75**

OUR PRICE

**\$1.25**

FOR THE TWO

New subscribers at same rate.

Sample copy of Bee Journal free.

Send all orders to—

**THE AMERICAN BEE JOURNAL,**

..

**118 W. Jackson,**

..

**CHICAGO, ILL.**

## CLASSIFIED ADVERTISEMENTS

Notices will be inserted in these classified columns at 25 cents per line. Advertisements intended for this department can not be less than two lines, and should not exceed five lines, and you must say you want your advertisement in the classified columns or we will not be responsible for errors.

### Honey and Wax for Sale

**FOR SALE.**—To reduce stock I offer for sale as follows; 26 cases of stock No. 40, and 40 cases of stock No. 44 at \$10.80 per case of two 60-lb. (new) cans. This is a raspberry-basswood blend, and is the cream of two aparies; being extracted from select all-sealed upper stories. A third of a century's experience in the production of fine extracted honey. Ask for my little circular "A Word about Extracted Honey;" this will explain why it pays to buy this delicious stock.

E. D. TOWNSEND, Remus, Mich.

**LISTEN!**—The two cases of honey are received, and I am greatly pleased with it. I don't think I ever saw finer honey in my life.

E. W. PEIRCE, Zanesville, Ohio.

You will be just as well pleased with your honey as Mr. Peirce if you send your order to JAY NORTH, of North Adams, Mich. One 60-lb. can, 8½ cts.; two 60-lb. cans, 8½ cts. For larger orders write for prices. Sample free.

**FOR SALE.**—My new crop of white-clover extracted honey. Honey has been left in full charge of the bees for three weeks after harvest, and is rich, waxy, and of fine flavor, and is as good as a specialist can produce. Price is 8c. per lb. by the case of 120 lbs. or for the entire crop. Cash to accompany order.

LEONARD S. GRIGGS, 711 Avon St., Flint, Mich.

**RASPBERRY HONEY**, left on the hives until thoroughly ripened; thick, rich, delicious; put up in new 60-lb. tin cans; \$6.25 for one can; two or more cans at \$6.00 per can. A few cans left of the "off color" raspberry honey at \$5.50 per can. Sample of either kind, ten cents, and the ten cents may apply on the first order.

W. Z. HUTCHINSON, Flint, Mich.

**FOR SALE.**—Comb honey, amber, buckwheat, and No. 2 white, at \$2.75 per case of 24 sections; in 25-case lots, 5 per cent off; light amber extracted (three-fourths clover), in 60-lb. cans, two to case, at 8 cts.

QUIRIN-THE-QUEEN-BREEDER,  
Bellevue, Ohio.

**FOR SALE.**—Write for prices on clover, basswood, and buckwheat honey in 60-lb. cans and kegs; also comb honey and beeswax, all guaranteed to be pure.

W. L. COGGSHALL, Groton, N. Y.

**FOR SALE.**—Choice extracted honey for table use, gathered from clover and basswood—thick, well ripened, delicious flavor. Price 9 cts. per lb. in 60-lb. cans, two to case. Sample, 10 cts.

J. P. MOORE, Queen-breeder, Morgan, Ky.

**FOR SALE.**—I have some extracted honey, well-ripened, fine, clover and basswood, in new five-gallon round cans, at \$5.50 a can; sample free; delivered f. o. b. cars here; ought to suit anybody.

MATHILDE CANDLER, Cassville, Wis.

**FOR SALE.**—Three thousand pounds of fine buckwheat honey in new cans. Send for sample and prices.

EARL RULISON, Rt. 1, Amsterdam, N. Y.

**FOR SALE.**—Clover, amber, and buckwheat extracted honey. Table quality. Write for prices, stating your needs.

C. J. BALDRIDGE, Homestead Farm, Kendaia, N. Y.

**FOR SALE.**—Honey, clover, or buckwheat, comb or extracted. Write for price. Sample of clover extracted free. State quantity and quality desired.

C. B. HOWARD, Romulus, N. Y.

**FOR SALE.**—Choice white-clover extracted honey, in new 60-lb. cans, or any shape desired. Ripened on the hives and guaranteed strictly pure. Sample free.

J. F. MOORE, Tiffin, O.

**FOR SALE.**—Fancy comb honey shipped in no-drip shipping-cases at \$3.15 per case of 24 sections. Address

HENRY CABLE, Reynoldsville, Pa. Rt. 1.

**FOR SALE.**—3000 lbs. clover extracted honey in 60-lb. cans. Fully ripened on hives; 9 cts. per lb., f. o. b. here. Sample free.

E. S. MILLER, Valparaiso, Ind.

**FOR SALE.**—Well-ripened white-clover honey in 60-lb. cans, at \$5.40 per can. Fall honey same price.

ARTHUR SCHULTZ, Ripon, Wis.

**FOR SALE.**—Fancy and No. 1 white-clover comb honey,  
ANTON G. ANDERSON, Holden, Mo.

### Honey and Wax Wanted

**WANTED.**—Comb, extracted honey, and beeswax. State price, kind, and quantity.

R. A. BURNETT, 199 South Water Street, Chicago, Ill.

**WANTED.**—Buckwheat or dark grades of extracted honey in 60-lb. cans, or packages of similar amount, immediately.

H. R. WRIGHT, Albany, N. Y.

**WANTED.**—25 tons of fancy comb honey. Write, stating particulars, to C. M. CHURCH, New Kensington, Pa.

### Bees and Queens

**FOR SALE.**—Moore's strain and golden Italian queens, untested, \$1.00; six, \$4.00; twelve, \$7.00. Carniolan, Banat, and Caucasian queens, select, \$1.00; six, \$5.00. Tested, any kind, \$1.25; six, \$6.00. Choice breeding queens, \$3.00 each. Circular free.

W. H. RAILS, Orange, Cal.

**FOR SALE.**—160 colonies of bees; extractor, extracting-supers, heavy with honey, at \$4.00 per colony, or \$550.00 for the outfit. No disease.

JULIUS HAPPEL,  
2809 Fulton Ave., Evansville, Ind.

**FOR SALE.**—Italian bees and queens now ready. Untested, \$1.00; tested, \$1.50. Bee-keepers' supplies, Root's goods. Send for prices. Eggs from Silver-laced Wyandotte poultry.

N. V. LONG, Biscoe, N. C.

**FOR SALE.**—Italian bees. Write for bargains in bee-supplies. Barred P. Rock, White Wyandotte cockerels, each, \$1.00.

H. S. DUBY, St. Anne, Illinois.

### For Sale

**FOR SALE.**—A full line of bee-keepers' supplies; also Italian bees and honey a specialty. Melilotus (sweet clover) seed for sale at 8 cts. per lb. Write for catalog and particulars.

W. P. SMITH, Penn, Miss.

**FOR SALE.**—One 2 H. P. Eli gasoline-engine in first-class condition, \$50.00; one Victor talking-machine and 48 records, \$35.00; cost new \$62.00.

M. A. JONES, Atwater, Ill.

**FOR SALE.**—Barnes' foot-power saw, in good condition. Price \$20.00, if taken immediately.

H. J. AVERY, Katonah, N. Y.

**FOR SALE.**—Shipping-cases, the no-drip kind; overstocked, get our special prices.

A. G. WOODMAN CO.,  
Grand Rapids, Mich.

**FOR SALE.**—Nearly new Oliver typewriter; No. 5, latest model.

L. H. RANDALL, Medina, Ohio.

**FOR SALE.**—Sweet-clover seed, 15 cts. per pound, postage extra. Root's supplies. ANTON G. ANDERSON, Holden, Mo.

**FOR SALE.**—Young English ring-neck pheasants. Cheap. Am overcrowded. Also old stock.

RIVERSIDE PHEASANTRY, Dorchester, Wis.

### Post Cards.

Let me reproduce your aparian views, photographs, etc., on genuine post-cards. Six cents each for six or more.

E. M. FRAME, Blue Rock, Ohio.



## Real Estate for Bee-keepers

**PECOS VALLEY** of New Mexico lands are coining \$50 to \$65 net per acre per year from alfalfa. Forty-five thousand acres of alfalfa in bloom five times a year, surrounding Artesia, means *honey for the bee-keeper*. Live in an ideal fruit country, where the largest artesian wells in the world constantly pour out their wealth. Artesia, the future Rose City, already has the famous "Mile of Roses." Homeseekers' excursions the first and third Tuesdays of each month. Agents wanted, to accompany parties. Write to-day to R. M. LOVE, General Agent, Artesia, N. M.

**FOR SALE.**—Delaware farm, public road; good buildings, good water; fruit, wood; rural delivery; school, churches, stores, mills, railroad depot, canneries, blacksmith shops, all convenient; an ideal place for bees, poultry, fruit, and trucking.  
L. A. LUDWIG, Maryland, Md.

**FOR SALE.**—Fine poultry and bee farm of twelve acres. Fine home, close to good town. No matter what you have looked at, investigate this. Address Box 106, West Alexandria, Ohio.

**FOR SALE.**—Salt River lands in Arizona, under Roosevelt dam.  
C. F. PULSIFER, Alhambra, Arizona.

## Wants and Exchanges

**WANTED.**—To buy a good location with bees; must have good buildings, good strain of bees, good bee pasture near stream or lake, good roads the year round. If you have the article, sing it out, with the lowest cash price. Must be within 200 miles of Illinois.  
JOHN H. KOONTZ, Stewardson, Illinois.

**WANTED.**—Refuse from the wax-extractor, or slumgum. State quantity and price.  
OREL L. HERSHISER,  
301 Huntington Ave., Buffalo, N. Y.

**WANTED.**—Bees. Spot cash prices. All letters answered  
F. B. CAVANAGH, Springport, Mich.

**WANTED.**—Bees on shares or lease for season of 1909; Pacific States preferred.  
C. A. WURTH, 640 Leverette St.,  
Fayetteville, Arkansas.

**WANTED.**—To exchange one male Angora goat, two years old. What have you to swap?  
W. S. BRILLHART, Oakwood, Ohio.

**WANTED.**—To buy or rent bees on shares. I prefer a location in Central or Northern Wisconsin. Address  
BEEMAN, 915 W. Dayton St., Madison, Wis.

**WANTED.**—To get in touch with a consumer of honey in the United States.  
PETER J. HURST,  
Nelson, St. Ann's Bay, Jamaica, B. W. I.

## Poultry Offers

A. I. Root's Bee-goods, Poultry-supplies, Seeds, etc.  
STAPLER'S, 412-414 Ferry St., Pittsburgh, Pa.

**FOR SALE.**—Indian Runner ducks, great layers, cheaper than ever, \$2.00 each; \$3.50 per pair, \$5.00 per trio. Circular free.  
KENT JENNINGS, Mt. Gilead, Ohio.

## Help Wanted

**WANTED.**—Capable man 30 to 40 years of age, married, to take charge of small farm in Ohio. State experience, salary wanted, date could begin, and give names of references. Address  
JOHN SMITH, Gleanings in Bee Culture, Medina, O.

**WANTED.**—Two experienced bee-men who know they are alive, for the season of 1909. Address  
J. W. GEORGE, Imperial, Imperial Co., Calif.

## Bee-keepers' Directory

I no longer club a queen with GLEANINGS.

W. T. CRAWFORD, Hineston, La.

Bee-keepers' Supply Co., Lincoln, Neb. We buy car lots of Root's goods. Save freight. Write.

No more queens for sale this fall.

A. W. YATES, 3 Chapman St., Hartford, Ct.

GOLDEN yellow Italian queens—my specialty. Price list free.  
E. E. LAWRENCE, Doniphan, Mo.

ROOT'S BEE SUPPLIES. Send for catalog.

D. COOLEY, Kendall, Mich.

Well-bred bees and queens. Hives and supplies.

J. H. M. COOK, 70 Cortlandt St., New York City.

For bee-smoker and honey-knife circular send card to

T. F. BINGHAM, Farwell, Mich.

ITALIAN BEES, queens, honey, and Root's bee-keepers' supplies.  
ALISO APIARY, El Toro, Cal.

Golden-all-over and red-clover Italian queens; circular ready.  
W. A. SHUFF, 4426 Osage Ave., Philadelphia, Pa.

Root's bee-supplies at factory prices, *Black Diamond Brand Honey*, and *bee-literature*. Catalog and circulars free.  
GEO. S. GRAFFAM & BRO., Bangor, Maine.

QUEENS.—Improved red-clover Italians, bred for business, June 1 to Nov. 15, untested queens, 60 cts.; select, 75 cts.; tested, \$1.00 each. Safe arrival and satisfaction guaranteed.  
H. C. CLEMONS, Boyd, Ky.

Improved Italian queens now ready. Nuclei and colonies May 1 to 10. Over twenty years a breeder; 500 colonies to draw on. Free circulars and testimonials. For prices see large advertisement in this issue.

QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

ITALIAN BEES AND QUEENS. I breed three-banded stock only, and use the finest breeding stock to be had. Send for price list. Twenty-five years' experience.

F. J. WARDELL, Uhrichsville, O.

Breeding queens of pure Caucasian and Camiolan races—price \$3.00. Order from A. E. Tiofo, Expert in Apiculture, with Russian Department of Agriculture, Kieff, Russia. Remit with orders. Correspondence in English.

## SPECIAL NOTICES

BY OUR BUSINESS MANAGER

LINCOLN FARM ALMANAC.

Your attention is especially desired in the case of the Lincoln Farm Almanac now advertised on the inside front cover page. It is one of the best offers we ever made.

A BARGAIN IN SQUARE JARS.

In order to reduce a surplus stock we are prepared to offer a special bargain in square jars of small size. These are put up 100 to the crate, and, including corks, we offer them as follows: 5-oz. square Powder jars, including corks, \$2.00 per 100; 1/2-lb. square Powder jars, including corks, \$2.25 per 100. In 500 lots you may deduct 5 per cent, and in 1000 lots 10 per cent from above prices. To make a really neat and attractive finish, tin foil caps should be added. We will include these at 25 cents per 100 extra, either size. This is a much handsomer package than a tumbler or jelly-glass, and at these prices it costs little if any more. Our stock offered at this price is limited, and the price holds only while the stock lasts. Shipments can be made only while the stock lasts. Shipments can be made only from Medina, at which point only are these jars in stock.



## TEMPERANCE

THE ANTI-SALOON LEAGUE, AND WHAT IT PROPOSES TO DO.

I have been much impressed by a little sentence that I found in the *Missouri Issue* for Oct. 30. In speaking of the Anti-saloon League and its mission it uses the following words:

*It proposes that we shall all unite to do something that we are all agreed upon, without reference to what any of us think about any thing else. It refuses to quarrel with its natural friends.*

I have put them in italics because I want you to read it over carefully and thoughtfully. In fact, I think it will pay to read it over a good many times.

What I have in mind just now is the relation of the Anti-saloon League to the Prohibition party. To tell the truth, I have just sent them ten dollars to make me a life-long subscriber to the *National Prohibitionist*. I explained to them that I was one of the charter members of the Anti-saloon League, and had been contributing pretty heavily toward it ever since it was started; and I suggested to them that, while these two great organizations are both working for temperance and for abolishing the saloon, and in the end bring about *prohibition* throughout the whole wide world, we certainly did not need to be hitting at each other, even if we do not think just alike. Then I asked the editor if some of his people could not vote for Governor Harris while he was coming out so vehemently for our county local-option work which is making such progress here in Ohio; but they seemed to think that I was, in so doing, "building up with one hand and tearing down with the other." Of course, this was in a private letter; but since then some unkind flings, that looked to me like *unnecessary* criticisms, have appeared in print in regard to our good Governor; and just because of the lack of a little help from our zealous friends of the Prohibition party we are turned over to the mercies of one who, at least, does not think best to come out so strongly for temperance. As I want to be loyal to the Governor who has been chosen by the majority of our people, I hope and pray he may not do any thing that will hinder the wave of reform that is still blessing our State of Ohio.

### THE WRIGHT BROTHERS UP TO DATE.

While the French Senate was in session Wilbur Wright was called on to make a speech. Now, from what I know of Wilbur I do not imagine he would make a very *long* speech, but that when he did make one it would be right to the point, and I think you will agree with me when you read it. Here it is:

I sometimes think that this indescribable desire to fly through space after the manner of birds is an inherited longing transmitted to us from our ancestors, who, in their toilsome journeys through the wilderness in primeval times, looked up and saw the birds shooting at almost lightning speed wherever they willed in the unobstructed pathways of the heavens.

Mr. Wright concluded by saying that he told his brother Orville in 1901 that men would not fly in fifty years, and yet he said *they* flew in 1902.

### JUST ONE OF MY BLUNDERS.

On page 1334, Nov. 1, in speaking of *Wilbur Wright's "accident"* I meant his brother, Orville

Wright. I am very sorry indeed if any blunder of mine has conveyed the idea that any thing has marred Wilbur's very successful flights at Le Mans.

### WILBUR WRIGHT INSTRUCTING PUPILS IN THE ART OF FLYING.

Several times I have remarked that if any accident should happen to the Wright Brothers it might be a difficult matter to find anybody on the face of our great round globe who could run the machine without some previous practice or experience with the Wrights as teachers. In view of this it rejoices my heart to know that the work of teaching is already under way, and that our good friend Wilbur has at least one pupil. See the following, which I clip from the *Cleveland Plain Dealer*, dated at Le Mans, France, Nov. 10:

Captain Lucas Girardville, of the French army, made a flight of 15 minutes with Wilbur Wright, the American aeroplanist, today, receiving his first lesson in piloting.

I suppose most of our readers are aware that Wilbur has received the \$100,000 for the right to make and use his flying-machine in France.

Orville returned to his home in Dayton, O., in time to vote, and is able to get around, at least after a fashion, by the aid of crutches.

### WU TING FANG IS NOW INVESTIGATING UNCOOKED FOODS.

Wu Ting Fang, the Chinese minister, who is now investigating American customs and inventions, is looking up the matter of uncooked foods—see page 1394; also the following which I clip from the *Woman's National Daily*:

#### UNCOOKED DINNER SERVED.

LAKEWOOD, N. J., Nov. 8.—Mr. and Mrs. Eugene Christian had as their guests Minister Wu Ting Fang, of China, and Vice-Consul L. Wing at a dinner at which every thing in the way of food was served uncooked. A large number of dishes were served in courses.

Perhaps I should explain to our friends that Mr. and Mrs. Eugene Christian are prominent exponents and venders of uncooked foods.

### "TAKING STOCK" IN NEW ENTERPRISES THAT ARE JUST COMING UP, ETC.

Be careful how you invest your money with anybody or any company who would persuade you through the papers that they have got a "big thing," and are making money so fast that, out of the kindness of their heart (?), they would like to divide this good thing with *other* "good people" who have money to invest. Perhaps there is some sarcasm in the above, but I can not help it; and it vexes me more because of late some people and some institutions that have had a good reputation in times past are begging the public through their advertisements "to get in on the ground floor" and "get rich" with them. A good praiseworthy institution does not have to go out begging in order to get people to invest.

#### DAN WHITE AND HIS DANDY STRAWBERRIES.

I marketed 500 bushels of berries this season. I now have six acres for next season in good shape considering the long drouth. I will soon write an article as you request. DAN WHITE.  
New London, Ohio, Nov. 10.



Before buying your Comb Foundation, or disposing of your beeswax, be sure to get our prices on wax and foundation, or our prices on working wax into foundation.

We are also in a position to quote you prices on hives, sections, and all other supplies. We give LIBERAL DISCOUNTS during the months of November, December, January, and February.

Remember that

# DADANT'S FOUNDATION

is the very best that money can buy.

We always guarantee satisfaction in every way.

LANGSTROTH ON THE HONEY-BEE (new edition), by mail, \$1.20.

Send for our prices on Extracted, White-clover, and Amber Fall Honey.

**DADANT & SONS, . . HAMILTON, ILL.**

## FOR OVER 25 YEARS

our make of goods has been acknowledged to be in the lead as regards  
WORKMANSHIP and MATERIAL.

**Our AIR-SPACED HIVE is a most excellent winter hive,**

and fully as good and convenient for summer management as the single-walled. Same inside dimensions as regular Dovetailed hives; all inside material interchangeable with Dovetailed hives.

**We manufacture full line of BEE-KEEPERS' SUPPLIES.**

|                            |                    |                   |                   |
|----------------------------|--------------------|-------------------|-------------------|
| FALL AND WINTER DISCOUNTS: | Sept., 7 per cent. | Nov., 5 per cent. | Jan., 3 per cent. |
|                            | Oct., 6 per cent.  | Dec., 4 per cent. | Feb., 2 per cent. |
|                            |                    |                   | Mar., 1 per cent. |

Catalog free.

**W. T. FALCONER MFG. CO., Jamestown, N. Y.**

# 50¢



# Bull Dog SUSPENDERS

**IN HANDSOME SINGLE BOXES MAKE USEFUL GIFTS**

More rubber, better webs, and stronger parts enable us to positively guarantee that  
**BULL DOG SUSPENDERS**

Outwear Three Ordinary Kinds  
Money back if not entirely satisfactory

A gift of these useful, handsome, inexpensive suspenders in attractive, single-pair boxes, will be remembered by every man and boy, long after the occasion is forgot

Made in light weight for the gentleman and in heavy weight for the strenuous user  
Extra long in either weights, if desired

**STRETCH A BULL DOG**—superior elasticity, which means more wear and comfort, is instantly noticed

Packed in handsome single-pair boxes, they are the most useful, satisfying gift you can buy anywhere for 50 cents  
**EVERY MAN, YOUTH AND BOY WILL GLADLY RECEIVE THEM**

**HEWES & POTTER, Makers**

Dept. 3298

87 Lincoln St., Boston, Mass.

Write for our instructive free booklet, "Style, or How to Dress Correctly," which contains valuable gift suggestions. For 10 cents postage, we will send our useful BULL DOG comb and case

## Why Do You Remain

in a section where the climatic conditions are so against you, where it is necessary to battle with the rigors of a long winter?

## Wouldn't You Like

to be permitted to carry on work out-of-doors throughout the entire year? A location in our southern territory offers many opportunities and advantages, and makes life a pleasure the year round. The lands can be obtained at reasonable prices, they are equally as productive as yours, prices as good, if not better, for your crops, and no long winters of ice and snow to contend with.

## The Seaboard Air Line Railway

through its Industrial Department, is anxious to assist you in bettering your present condition. Literature will be sent free upon request. Ask for copy of "FRUIT AND VEGETABLE GROWING" in the Land of Manatee, written by a western man, containing descriptive data, profits derived from various crops, etc.

## Special Rates

November 24th

The lowest rate ever offered for the benefit of prospectors and homeseekers will be in effect from certain points on Nov. 24th. Let us help you take advantage of this opportunity to make a trip of investigation at very little cost. Write for full particulars.

**J. W. WHITE**  
General Industrial Agent  
SEABOARD AIR LINE RAILWAY  
Portsmouth, Va.  
Dept. F

## Texas Land \$1.00 To \$5.00 Per Acre

Texas has passed new School Land Laws. Millions of acres are now to be sold by the State at \$1.00 to \$5.00 per acre; only one-fortieth cash and no more to pay for 40 years, unless you desire; only 3 per cent interest. You can buy 160 acres at \$1.00 per acre, payable \$4.00 down and 40 years' time on the balance, 3% interest. Greatest opportunity ever offered to investors and farmers. Texas land is better than Oklahoma, Iowa or Illinois. Send 50 cents for Book of Instructions, New State Law, Map of Texas, and brief description of over 400 million acres of vacant public lands in 25 different States, which are open to homestead. Three Books for \$1.00.  
**E. C. HOWE, 938 Hartford Building, CHICAGO, ILL.**

## 9,059-Word Business Book Free

Simply send us a postal and ask for our free illustrated 9,059-word Business Booklet which tells how priceless Business Experience, squeezed from the lives of 112 big, broad, brainy business men may be made yours—yours to boost your salary, to increase your profits. This free booklet deals with

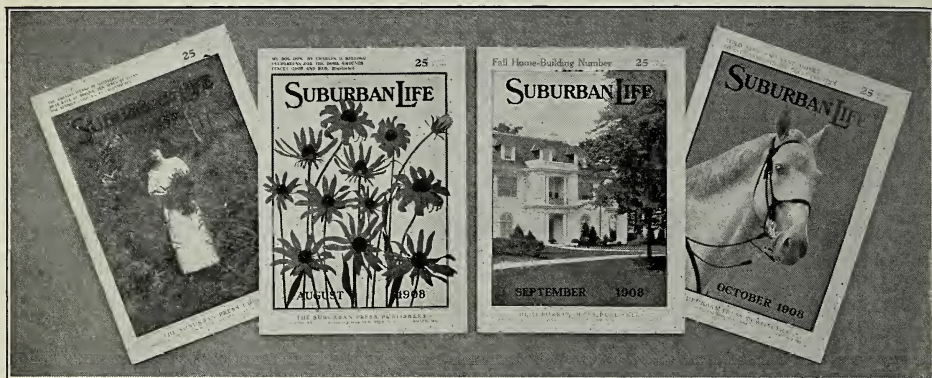
- How to manage a business
- How to sell goods
- How to get money by mail
- How to buy at rock-bottom
- How to collect money
- How to stop cost leaks
- How to train and handle men
- How to get and hold a position
- How to advertise a business
- How to devise office methods

Sending for this free book binds you to nothing, involves you in no obligation, yet it may be the means of starting you on a broader career. Surely you will not deny yourself this privilege, when it involves only the risk of a postal—a penny! Simply say "Send on your 9,059-word Booklet." Send to

**SYSTEM, Dept. 9-12, 151-153 Wabash Ave., Chicago**



# Suburban Life



## 4 MONTHS FOR 50 CENTS

**For the Suburban Dweller It Is an Inspiration  
For the City Dweller, It Is "A Week End in the Country"**

Suburban Life is practical; its articles are written by people who have done what they write about. If you are so fortunate as to live out of the city, for you Suburban Life is a necessity, not a luxury. If will cost you more to go without than to take it. Every member of your family will enjoy it immensely, too.

### SUBSCRIBE NOW

The Christmas number of Suburban Life is the richest in the year, and one of the most beautifully printed magazines in America. True to the Christmas spirit, its clean, bright pages radiate suggestion and helpfulness in accord with the season. Here are just a few of the things you will enjoy.

#### MY BEST REMEMBERED CHRISTMAS

By CLARA MORRIS

#### A MESSAGE FROM GIFFORD PINCHOT

CHIEF UNITED STATES BUREAU OF FORESTRY

#### A CHRISTMAS PARTY OUT-OF-DOORS

By H. H. HOLLAND

#### COUNTRY GAMES FOR CHRISTMAS

EVE

By ARTHUR L. BLESSING

#### A NEW ENGLAND CHRISTMAS

By HARRIET WOODWARD CLARK

#### NEW THINGS IN THE WAY OF FURNITURE

By RICHARD MORTON

#### THE LONESOMEST BOY. A Christmas Sketch

By EMMA C. DOWD

#### GATHERING EVERGREENS IN THE SOUTH

By O. P. BECKLEY

All these and many more in the magnificent Christmas Number.

For sale on all news-stands; price, 25 cents, or \$3 a year

### SPECIAL HALF-PRICE OFFER

The splendid Christmas number, and January, February and March (the big Spring planting number), all four for **fifty cents**, if you will send **at once**.

Why? Because we want you to start 1909 with Suburban Life. We know you will wish to finish the year. **Send coupon with fifty cents today.** Write for our list of clubbing offers, including all the leading magazines. We can save you from \$1.50 to \$3.00 according to your selection. Address

### PUBLISHERS SUBURBAN LIFE

44 East 23d St., New York City

**FILL OUT AND MAIL TODAY**

DEPT. H

44 East 23d Street, New York

For which I enclose fifty cents.

Name \_\_\_\_\_

Town \_\_\_\_\_

State \_\_\_\_\_

Order by Check, Money  
coin, Canadian  
postage 15  
cts. ex-  
tra

Subscribers may re-  
mit by Check, Money  
coin, Canadian  
postage 15  
cts. ex-  
tra